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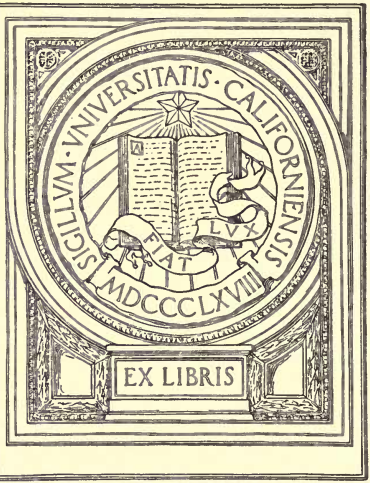

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MANUAL

FOR THE USE OF

PROSPECTORS

ON THE

MINERAL LANDS

OF THE

UNITED STATES.

BY HENRY N. COPP

SIXTH EDITION.

PUBLISHED BY THE EDITOR.
WASHINGTON, D. C.
1900.

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HENRY N. COPP,
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PREFACE TO FIFTH EDITION

THE mineralogical portion of this work has been revised and partly re-written by Mr. L. R. Grabill, Mining Engineer, formerly assayer for The Bassick Mining Company of Rosita, Colorado, and for the Pueblo Sampling Works, of Pueblo, Colorado. He has been a prospector, locator, and superintendent of mines in Colorado and New Mexico.

The instructions for the survey of a claim are also added by him, and are derived from his practical experience as a Deputy United States Mineral Land Surveyor.

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UNITED STATES

MINING LAWS

AND

REGULATIONS THEREUNDER.

Reserved from Sale under the Pre-emption and Homestead Laws.

UNITED STATES LAW.—SEC. 2318. In all cases lands valuable for minerals shall be reserved from sale, except as otherwise expressly directed by law.

License to Explore, Occupy, and Purchase.

SEC. 2319. All valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and purchase, and the lands in which they are found to occupation and purchase, by citizens of the United States and those who have declared their intention to become such, under regulations prescribed by law, and according to the local customs or rules of miners in the several mining districts, so far as the same are applicable and not inconsistent with the laws of the United States.

Lode Claims.

SEC. 2320. Mining claims upon veins or lodes of quartz or other rock in place, bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposits heretofore located, shall be governed as to length along the vein or lode by the customs, regulations, and laws in force at the date of their location. A mining claim located after the tenth day of May, eighteen hundred and seventy-two, whether located by one or more persons, may equal, but shall not exceed, one thousand five hundred feet in length along the vein or lode; but no location of a mining claim shall be made until the discovery of the vein or lode within the limits of the claim located. No claim shall extend more than three hundred feet on each side of the middle of the vein at the surface, nor shall any claim be limited by any mining regulation to less than twenty-five feet on each side of the middle of the vein at the surface, except

where adverse rights existing on the tenth day of May, eighteen hundred and seventy-two, render such limitation necessary. The end lines of each claim shall be parallel to each other.

SEC. 2322. The locators of all mining locations heretofore made or which shall hereafter be made, on any mineral vein, lode, or ledge, situated on the public domain, their heirs and assigns, where no adverse claim exists on the tenth day of May, eighteen hundred and seventy-two, so long as they comply with the laws of the United States, and with state, territorial, and local regulations not in conflict with the laws of the United States governing their possessory title, shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations, and of all veins, lodes, and ledges throughout their entire depth, the top or apex of which lies inside of such surface lines extended downward vertically, although such veins, lodes, or ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical side lines of such surface locations. But their right of possession to such outside parts of such veins or ledges shall be confined to such portions thereof as lie between vertical planes drawn downward as above described, through the end lines of their locations, so continued in their own direction that such planes will intersect such exterior parts of such veins or ledges. And nothing in this section shall authorize the locator or possession of a vein or lode which extends in its downward course beyond the vertical lines of his claim to enter upon the surface of a claim owned or possessed by another.

Status of Lode-Claims Located Prior to May 10, 1872.

LAND OFFICE REGULATIONS.—2. By an examination of the several sections of the Revised Statutes, it will be seen that the *status* of lode-claims located *previous* to the 10th of May, 1872, is not changed with regard to their *extent along the lode or width of surface.*

3. Mining rights acquired under such previous locations are, however, enlarged by said Revised Statutes in the following respect, viz.: The locators of all such previously taken veins or lodes, their heirs and assigns, so long as they comply with the laws of Congress and with State, Territorial, or local regulations not in conflict therewith, governing mining claims, are invested with the exclusive possessory right of all the surface included within the lines of their locations, and of all veins, lodes, or ledges throughout their entire depth, the top or apex of which lies inside of such surface-lines extended downward vertically, although such veins, lodes or ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical side-lines of such locations at the surface; it being expressly provided, however, that the right of possession to such outside parts of said veins or ledges shall be confined to such portions thereof as lie between vertical planes drawn downward as aforesaid, though the end-lines of their locations so continued in their own direction that such plans will intersect such exterior parts of such veins lodes, or ledges; no right being granted, however, to the claimant of such outside portion of a vein or ledge to enter upon the surface location of another claimant.

4. It is to be distinctly understood, however, that the law limits the possessory right to veins, lodes, or ledges, *other* than the one named in the original location, to such as were not *adversely claimed on May* 10, 1872, and that where such other vein or

ledge was so adversely claimed at that date, the right of the party so adversely claiming is in no way impaired by the provisions of the Revised Statutes.

5. In order to hold the possessory title to a mining claim located prior to May 10, 1872, and for which a patent has not been issued, the law requires that *ten dollars* shall be expended annually in labor or improvements on each claim of *one hundred feet* on the course of the vein or lode until a patent shall have been issued therefor; but where a number of such claims are held in common upon the same vein or lode, the aggregate expenditure that would be necessary to hold all the claims, at the rate of ten dollars per hundred feet, may be made upon any one claim; a failure to comply with this requirement in any one year subjecting the claim upon which such failure occurred to relocation by other parties, the same as if no previous location thereof had ever been made, unless the claimants under the original location shall have resumed work thereon after such failure and before such relocation. The first annual expenditure upon claims of this class should have been performed subsequent to May 10, 1872, and prior to January 1, 1875. From and after January 1, 1875, the required amount must be expended *annually* until patent issues. By decision of the honorable Secretary of the Interior, dated March 4, 1879, such annual expenditures are not required subsequent to entry, the date of issuing the patent certificate being the date contemplated by statute.

6. Upon the failure of any one of several co-owners of a vein, lode, or ledge, which has not been entered, to contribute his proportion of the expenditures necessary to hold the claim or claims so held in ownership in common, the co-owners, who have performed the labor or made the improvements as required by said Revised Statutes, may, at the expiration of the year, give such delinquent co-owner personal notice in writing, or notice by publication in the newspaper published nearest the claim for at least once a week for ninety days; and if upon the expiration of ninety days after such notice in writing, or upon the expiration of one hundred and eighty days after the first newspaper publication of notice, the delinquent co-owner shall have failed to contribute his proportion to meet such expenditures or improvements, his interest in the claim by law passes to his co owners who have made the expenditures or improvements as aforesaid. Where a claimant alleges ownership of a forfeited interest under the forgoing provision, the sworn statement of the publisher as to the facts of publication, giving dates and a printed copy of the notice published, should be furnished, and the claimant must swear that the delinquent co-owner failed to contribute his proper proportion within the period fixed by the statute.

Patents for Veins or Lodes Heretofore Issued.

UNITED STATES LAW.—SEC. 2328. Applications for patents for mining claims under former laws now pending may be prosecuted to a final decision in the General Land Office; but in such cases where adverse rights are not affected thereby, patents may issue in pursuance of the provisions of this chapter; and all patents for mining-claims upon veins or lodes heretofore issued shall convey all the rights and privileges conferred by this chapter where no adverse rights existed on the tenth day of May, eighteen hundred and seventy-two.

LAND OFFICE REGULATIONS.—7. Rights under patents for veins or lodes heretofore granted under previous legislation of Congress are enlarged by the Revised Statutes so as to invest the patentee, his heirs or assigns, with title to all veins, lodes, or ledges throughout their entire depth, the top or apex of which lies within the end and side

boundary lines of his claim on the surface, as patented, extended downward vertically, although such veins, lodes, or ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical side-lines of the claim at the surface. The right of possession to such outside parts of such veins or ledges to be confined to such portions thereof as lie between vertical planes drawn downward through the end lines of the claims at the surface, so continued in their own direction that such planes will intersect such exterior parts of such veins or ledges; it being expressly provided, however, that all veins, lodes, or ledges, the top or apex of which lies inside such surface locations, *other* than the one named in the patent, which were *adversely claimed on the 10th May*, 1872, are excluded from such conveyance by patent.

District Rules, Locations, and Annual Expenditures.

UNITED STATES LAW.—SEC. 2324. The miners of each mining district may make regulations not in conflict with the laws of the United States, or with the laws of the state or territory in which the district is situated, governing the location, manner of recording, amount of work necessary to hold possession of a mining claim, subject to the following requirements: The location must be distinctly marked on the ground, so that its boundaries can be readily traced. All records of mining claims hereafter made shall contain the name or names of the locators, the date of the location, and such a description of the claim or claims located by reference to some natural object or permanent monument as will identify the claim. On each claim located after the tenth day of May, eighteen hundred and seventy-two, and until a patent has been issued therefor, not less than one hundred dollars' worth of labor shall be performed or improvements made during each year. On all claims located prior to the tenth day of May, eighteen hundred and seventy-two, ten dollars worth of labor shall be performed or improvements made by the tenth day of June, eighteen hundred and seventy-four, and each year thereafter, for each one hundred feet in length along the vein, until a patent has been issued therefor; but where such claims are held in common, such expenditure may be made upon any one claim; and upon a failure to comply with these conditions, the claim or mine upon which such failure occurred shall be opened to relocation in the same manner as if no location of the same had ever been made: *Provided*, That the original locators, their heirs, assigns, or legal representatives, have not resumed work upon the claim after failure and before such location. Upon the failure of any one of several co-owners to contribute his proportion of the expenditures required hereby, the co-owners who have performed the labor or made the improvements may, at the expiration of the year, give such delinquent co-owner personal notice in writing or notice by publication in the newspaper published nearest the claim, for at least once a week for ninety days, and if at the expiration of ninety days after such notice in writing or by publication such delinquent should fail or refuse to contribute his proportion of the expenditure required by this section, his interest in the claim shall become the property of his co-owners, who have made the expenditures. [See paragraph 6, p. 3.]

How to Locate Claims on Veins or Lodes.

LAND OFFICE REGULATIONS.—9. From and after the 10th May, 1872, any per-

son who is a citizen of the United States, or who has declared his intention to become a citizen, may locate, record, and hold a mining claim of *fifteen hundred linear feet* along the course of any mineral vein or lode subject to location; or an association of persons, severally qualified as above, may make joint location of such claim of *fifteen hundred feet*, but in no event can a location of a vein or lode made subsequent to May 10, 1872, exceed fifteen hundred feet along the course thereof, whatever may be the number of persons composing the association.

10. With regard to the extent of the surface-ground adjoining a vein or lode, and claimed for the convenient working thereof, the Revised Statutes provide that the lateral extent of the locations of veins or lodes made after May 10, 1872, shall in no case *exceed three hundred feet on each side of the middle of the vein at the surface*, and that no such surface rights shall be limited by any mining regulations to less than twenty-five feet on each side of the middle of the vein at the surface, except where adverse rights existing on the 10th May, 1872, may render such limitation necessary; the end-lines of such claims to be in all cases parallel to each other. Said lateral measurements cannot extend beyond three hundred feet on *either* side of the middle of the vein at the surface, or such distance as is allowed by local laws. For example: 400 feet cannot be taken on one side and 200 feet on the other. If, however, 300 feet on each side are allowed, and by reason of prior claims but 100 feet can be taken on one side, the locator will not be restricted to less than 300 feet on the other side; and when the locator does not determine by exploration *where* the middle of the vein at the surface is, his discovery shaft must be assumed to mark such point.

11. By the foregoing it will be perceived that no lode-claim located after the 10th May, 1872, can exceed a parellelogram fifteen hundred feet in length by six hundred feet in width,, but whether surface-ground of that width can be taken depends upon the local regulations or State or Territorial laws in force in the several mining-districts; and that no such local regulations or State or Territorial laws shall limit a vein or lode claim to less than fifteen hundred feet along the course thereof, whether the location is made by one or more persons, nor can surface rights be limited to less than fifty feet in width, unless adverse claims existing on the 10th day of May, 1872, render such lateral limitation necessary.

12. It is provided by the Revised Statutes that the miners of each district may make rules and regulations not in conflict with the laws of the United States, or of the State or Territory in which such districts are respectively situated, governing the location, manner of recording, and amount of work necessary to hold possession of a claim. They likewise require that the location shall be so distinctly marked on the ground that its boundaries may be readily traced. This is a very important matter, and locators cannot exercise too much care in defining their locations at the outset, inasmuch as the law requires that all records of mining locations made subsequent to May 10, 1872, shall contain the name or names of the locators, the date of the location, and such a *description of the claim or claims* located, by reference to some natural object or permanent monument, as will identify the claim.

13. The statutes provide that no lode-claim shall be recorded until after the discovery of a vein or lode within the limits of the claim located, the object of which provision is evidently to prevent the appropriation of presumed mineral ground for speculative purposes to the exclusion of *bona fide* prospectors, before sufficient work has been done to determine whether a vein or lode really exists.

14. The claimant should, therefore, prior to locating his claim, unless the vein can be traced upon the surface, sink a shaft, or run a tunnel or drift, to a sufficient depth

therein to discover and develop a mineral-bearing vein, lode, or crevice; should determine, if possible, the general course of such vein in either direction from the point of discovery, by which direction he will be governed in marking the boundaries of his claim on the surface. His location notice should give the course and distance as nearly as practicable from the discovery-shaft on the claim, to some permanent, well-known points or objects, such, for instance, as stone monuments, blazed trees, the confluence of streams, points of intersection of well-known gulches, ravines, or roads, prominent buttes, hills, etc., which may be in the immediate vicinity, and which will serve to perpetuate and fix the *locus* of the claim and render it susceptible of identification from the description thereof given in the record of locations in the district, and should be duly recorded.

15. In addition to the foregoing data, the claimant should state the names of adjoining claims, or, if none adjoin, the relative positions of the nearest claims; should drive a post or erect a monument of stones at each corner of his surface-ground, and at the point of discovery or discovery shaft should fix a post, stake, or board, upon which should be designated the name of the lode, the name or names of the locators, the number of feet claimed, and in which direction from the point of discovery; it being essential that the location notice filed for record, in addition to the foregoing description, should state whether the entire claim of fifteen hundred feet is taken on one side of the point of discovery, or whether it is partly upon one and partly upon the other side thereof, and in the latter case, how many feet are claimed upon each side of such discovery-point.

16. Within a reasonable time, say twenty days after the location shall have been marked on the ground, or such time as is allowed by the local laws, notice thereof, accurately describing the claim in manner aforesaid, should be filed for record with the proper recorder of the district, who will thereupon issue the usual certificate of location.

17. In order to hold the possessory right to a location made since May 10, 1872, not less than one hundred dollars' worth of labor must be performed, or improvements made thereon annually until entry shall have been made. Under the provisions of the act of Congress approved January 22, 1880, the first annual expenditure becomes due and must be performed during the calendar year succeeding that in which the location was made. Expenditure made or labor performed prior to the first day of January succeeding the date of location will not be considered as a part of, or applied upon the first annual expenditure required by law. Failure to make the expenditure or perform the labor required will subject the claim to relocation by any other party having the necessary qualifications, unless the original locator, his heirs, assigns, or legal representatives, have resumed work thereon after such failure and before such relocation.

18. The expenditures required upon mining claims may be made from the surface or in running a tunnel for the development of such claims, the act of February 11, 1875, providing that where a person or company has, or may, run a tunnel for the purpose of developing a lode or lodes owned by said person or company, the money so expended in said tunnel shall be taken and considered as expended on said lode or lodes, and such person or company shall not be required to perform work on the surface of said lode or lodes in order to hold the same.

19. The importance of attending to these details in the matter of location, labor, and expenditure will be the more readily perceived when it is understood that a failure to give the subject proper attention may invalidate the claim.

Cross Lodes.

UNITED STATES LAW.—SEC. 2336. Where two or more veins intersect or cross each other, priority of title shall govern, and such prior location shall be entitled to all ore or mineral contained within the space of intersection; but the subsequent location shall have the right of way through the space of intersection for the purposes of the convenient working of the mine. And where two or more veins unite, the oldest or prior location shall take the vein below the point of union, including all the space of intersection.

How to Apply for a Patent.

UNITED STATES LAW.—SEC. 2335. A patent for any land claimed and located for valuable deposits may be obtained in the following manner: Any person, association, or corporation authorized to locate a claim under this chapter, having claimed and located a piece of land for such purposes, who has, or have, complied with the terms of this chapter, may file in the proper land-office an application for a patent, under oath, showing such compliance, together with a plat and field-notes of the claim or claims in common, made by or under the direction of the United States Surveyor-General, showing accurately the boundaries of the claim or claims, which shall be distinctly marked by monuments on the ground, and shall post a copy of such plat, together with a notice of such application for a patent, in a conspicuous place on the land embraced in such plat previous to the filing of the application for a patent, and shall file an affidavit of at least two persons that such notice has been duly posted, and shall file a copy of the notice in such land-office, and shall thereupon be entitled to a patent for the land, in the manner following: The register of the land-office, upon the filing of such application, plat, field-notes, notices, and affidavits, shall publish a notice that such application has been made, for the period of sixty days, in a newspaper to be by him designated as published nearest to such claim; and he shall also post such notice in his office for the same period. The claimant at the time of filing this application, or at any time thereafter, within the sixty days of publication, shall file with the register a certificate of the United States surveyor-general that five hundred dollars' worth of labor has been expended or improvements made upon the claim by himself or grantors; that the plat is correct, with such further description by such reference to natural objects or permanent monuments as shall identify the claim, and furnish an accurate description, to be incorporated in the patent. At the expiration of the sixty days of publication the claimant shall file his affidavit, showing that the plat and notice have been posted in a conspicuous place on the claim during such period of publication. If no adverse claim shall have been filed with the register and the receiver of the proper land-office at the expiration of the sixty days of publication, it shall be assumed that the applicant is entitled to a patent, upon the payment to the proper officer of five dollars per acre, and that no adverse claim exists; and thereafter no objection from third parties to the issuance of a patent shall be heard, except it be shown that the applicant has failed to comply with the terms of this chapter.

LAND OFFICE REGULATIONS.—27. By section 2325 authority is given for granting titles for mines by patent from the government to any person, association, or corporation having the necessary qualifications as to citizenship holding the right of possession to a claim in compliance with law.

28. The claimant is required in the first place to have a correct survey of his claim made under authority of the surveyor-general of the State or Territory in which the claim lies; such survey to show with accuracy the exterior surface boundaries of the claim, which boundaries are required to be distinctly marked by monuments on the ground. Four plats and one copy of the original field notes, in each case, will be prepared by the surveyor-general; one plat and the original field notes, to be retained in the office of the surveyor-general; one copy of the plat to be given the claimant for posting upon the claim, one plat and a copy of the field notes to be given the claimant for filing with the proper register, to be finally transmitted by that officer, with other papers in the case, to this office, and one plat to be sent by the surveyor-general to the register of the proper land district to be retained on his files for future reference. As there is no resident surveyor-general for the State of Arkansas, applications for the survey of mineral claims in said State should be made to the Commissioner of this office, who, under the law, is *ex officio* the U. S. surveyor-general.

29. The claimant is then required to post a copy of the plat of such survey in a conspicuous place upon the claim, together with notice of his intention to apply for a patent therefor, which notice will give the date of posting, the name of the claimant, the name of the claim, mine, or lode; the mining district and county; whether the location is of record, and, if so, where the record may be found; the number of feet claimed along the vein, and the presumed direction thereof; the number of feet claimed on the lode in each direction from the point of discovery, or other well-defined place on the claim; the name or names of adjoining claimants on the same or other lodes; or, if none adjoin, the names of the nearest claims, etc.

30. After posting the said plat and notice upon the premises, the claimant will file with the proper register and receiver a copy of such plat, and the field notes of survey of the claim, accompanied by the affidavit of at least two credible witnesses, that such plat and notice are posted conspicuously upon the claim, giving the date and place of such posting; a copy of the *notice* so posted to be attached to, and form a part of, said affidavit.

31. Accompanying the field notes so filed must be the sworn statement of the claimant, that he has the possessory right to the premises therein described, in virtue of a compliance by himself (and by his grantors, if he claims by purchase) with the mining rules, regulations, and customs of the mining district, State or Territory in which the claim lies, and with the mining laws of Congress; such sworn statement to narrate briefly, but as clearly as possible, the facts constituting such compliance, the origin of his possession, and the basis of his claim to a patent.

32. This affidavit should be supported by appropriate evidence from the mining recorder's office as to his possessory right, as follows, viz.: Where he claims to be the locator, or a locator in company with others who have since conveyed their interest in the location to him, a full, true, and correct copy of such location should be furnished, as the same appears upon the mining records; such copy to be attested by the seal of the recorder, or if he has no seal, then he should make oath to the same being correct, as shown by his records. Where the applicant claims only as a purchaser for valuable consideration, a copy of the location record must be filed under seal or upon oath as aforesaid, with an abstract of title from the proper recorder, under seal or oath

as aforesaid, brought down as near as practicable to date of filing the application, tracing the right of possession by a continuous chain of conveyances from the original locators to the applicant, also certifying that no conveyances affecting the title to the claim in question appear of record in his office other than those set forth in the accompanying abstract.

33. In the event of the mining records in any case having been destroyed by fire or otherwise lost, affidavit of the fact should be made, and secondary evidence of possessory title will be received, which may consist of the affidavit of the claimant, supported by those of any other parties cognizant of the facts relative to his location, occupancy, possession, improvements, etc.; and in such case of lost records, any deeds, certificates of location or purchase, or other evidence which may be in the claimant's possession and tend to establish his claim, should be filed.

34. Upon the receipt of these papers the register will, at the expense of the claimant (who must furnish the agreement of the publisher to hold applicant for patent alone responsible for charges of publication), publish a notice of such application for the period of sixty days in a newspaper published nearest to the claim, and will post a copy of such notice in his office for the same period. When a notice is published in a *weekly* newspaper ten consecutive insertions are necessary; when in a *daily* newspaper the notice must appear in each issue for sixty one consecutive issues, the first day of issue being excluded in estimating the period of sixty days.

35. The notices so published and posted must be as full and complete as possible, and embrace all the *data* given in the notice posted upon the claim.

36. Too much care cannot be exercised in the preparation of these notices, inasmuch as upon their accuracy and completeness will depend, in a great measure, the regularity and validity of the whole proceeding.

37. In the publication of final proof notices the register has *no discretion* under the law to designate any other than the newspaper "nearest the land" for such purpose, when such paper is a newspaper of general circulation. But he will in all cases designate the newspaper of general circulation that is published nearest the land, geographically measured. When two or more such newspapers are published in the same town, nearest the land, he may select the one which, in his honest and impartial judgment as a public officer, will best subserve the purpose of the law and the general interests of the public.

38. Newspaper charges must not exceed the rates established by this office for the publication of legal notices.

39. The claimant, either at the time of filing these papers with the register or at any time during the sixty days' publication, is required to file a certificate of the surveyor-general that not less than five hundred dollars' worth of labor has been expended or improvements made upon the claim by the applicant or his grantors; that the plat filed by the claimant is correct; that the field-notes of the survey, as filed, furnish such an accurate description of the claim as will, if incorporated into a patent, serve to fully identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the *locus* thereof.

40. It will be the more convenient way to have this certificate indorsed by the surveyor-general, both upon the plat and field-notes of survey filed by the claimant as aforesaid.

41. After the sixty days' period of newspaper publication has expired, the claimant will furnish from the office of publication a sworn statement that the notice was published for the statutory period, giving the first and last day of such publication, and

his own affidavit showing that the plat and notice aforesaid remained conspicuously posted upon the claim sought to be patented during said sixty days' publication, giving the dates.

42. Upon the filing of this affidavit the register will, if no adverse claim was filed in his office during the period of publication, permit the claimant to pay for the land according to the area given in the plat and field notes of survey aforesaid, at the rate of five dollars for each acre, and five dollars for each fractional part of an acre, the receiver issuing the usual duplicate receipt therefor. The claimant will also make a sworn statement of all charges and fees paid by him for publication and surveys, together with all fees and money paid the register and receiver of the land office; after which the whole matter will be forwarded to the Commissioner of the General Land Office and a patent issued thereon if found regular.

43. In sending up the papers in the case the register must not omit certifying to the fact that the notice was posted in his office for the full period of sixty days, such certificate to state distinctly when such posting was done, and how long continued.

44. The consecutive series of numbers of mineral entries must be continued, whether the same are of lode or placer claims or mill sites.

45. The surveyors-general should designate all surveyed mineral claims by a progressive series of numbers, beginning with survey No. 37, irrespective as to whether they are situated on surveyed or unsurveyed lands, the claim to be so designated at date of issuing the order therefor, in addition to the local designation of the claim. It being required in all cases that the plat and field-notes of the survey of a claim must, in addition to the reference to permanent objects in the neighborhood, describe the locus of the claim, with reference to the lines of public surveys, by a line connecting a corner of the claim with the nearest public corner of the United States surveys, unless such claim be on unsurveyed lands at a distance of more than two miles from such public corner, in which latter case it should be connected with a United States mineral monument. Such connecting line must not be more than *two miles* in length, and should be measured on the ground direct between the points, or calculated from actually surveyed traverse lines if the nature of the country should not permit direct measurement. If a regularly established survey corner is within two miles of a claim situated on unsurveyed lands, the connection should be made with such corner in preference to a connection with a United States mineral monument. The connecting line must be surveyed by the deputy mineral surveyor at the time of his making the particular survey, and be made a part thereof.

46. Upon the approval of the survey of a mining claim made upon surveyed lands, the surveyor-general will prepare and transmit to the local land office and to this office a diagram tracing, showing the portions of legal 40-acre subdivisions made fractional by reason of the mineral survey, designating each of such portions by the proper lot number, beginning with No. 1 in each section and giving the area of each lot.

47. The survey and plat of mineral claims, required by section 2325, Revised Statutes of the United States, to be filed in the proper land office, with application for patent, must be made subsequent to the recording of the location of the mine; and when the original location is made by survey of a United States deputy surveyor such location survey can not be substituted for that required by the statute, as above indicated.

48. The surveyor-general should derive his information upon which to base his certificate as to the value of labor expended or improvements made from his deputy

who makes the actual survey and examination upon the premises, and such deputy should specify with particularity and full detail the character and extent of such improvements.

49. The following particulars should be observed in the survey of every mining claim:

(1) The exterior boundaries of the claim should be represented on the plat of survey and in the field notes.

(2) The intersection of the lines of the survey with the lines of conflicting prior surveys should be noted in the field-notes and represented upon the plat.

(3) Conflicts with unsurveyed claims, where the applicant for survey does not claim the area in conflict, should be shown by actual survey.

(4) The total area of the claim embraced by the exterior boundaries should be stated, and also the area in conflict with each intersecting survey, substantially as follows:

	Acres.
Total area of claim	10.50
Area in conflict with survey No. 302	1.56
Area in conflict with survey No. 948	2.33
Area in conflict with Mountain Maid lode mining claim, unsurveyed	1.48

It does not follow that because mining surveys are required to exhibit all conflicts with prior surveys the areas of conflict are to be excluded. The field-notes and plat are made a part of the application for patent, and care should be taken that the description does not inadvertently exclude portions intended to be retained. It is better that the application for patent should state the portions to be excluded in express terms. A survey executed as in the example given will enable the applicant for patent to exclude such conflicts as may seem desirable. For instance, the conflict with survey No. 302, and with the Mountain Maid lode claim, might be excluded, and that with survey No. 948 included.

50. The rights granted to locators under section 2322, Revised Statutes, are restricted to such locations on veins, lodes, or ledges as may be "situated on the *public domain.*" In applications for lode claims where the survey conflicts with a prior valid lode claim or entry and the ground in conflict is excluded, the applicant not only has no right to the excluded ground, but he has no right to that portion of any vein or lode the top or apex of which lies within such excluded ground, unless his location was prior to May 10, 1872. His right to the lode claimed terminates where the lode, in its onward course or strike, intersects the exterior boundary of such excluded ground and passes within it.

51. The end line of his survey should not, therefore, be established beyond such intersection, unless it should be necessary so to do for the purpose of including ground held and claimed under a location which was made upon public land and valid at the time it was made. To include such ground (which may possibly embrace other lodes) the end line of the survey may be established within the conflicting survey, but the line must be so run as not to extend any farther into the conflicting survey than may be necessary to make such end line parallel to the other end line and at the same time embrace the ground so held and claimed. The useless practice in such cases of extending *both* the side lines of a survey into the conflicting survey and establishing an end line wholly within it, beyond a point necessary under the rule just stated, will be discontinued.

74. As a condition for the making of application for patent according to section 2325, there must be a preliminary showing of work or expenditure upon each location,

either by showing the full amount sufficient to the maintenance of possession under section 2324 for the pending year; or, if there has been failure, it should be shown that work has been resumed so as to prevent relocation by adverse parties after abandonment. The "pending year" means the calendar year in which application is made, and has no reference to a showing of work at date of the final entry.

75. This preliminary showing may, where the matter is unquestioned, consist of the affidavit of two or more witnesses familiar with the facts.

93. A party who is not an applicant for patent under section 2325, Revised Statutes, or the assignee of such applicant, is not entitled to make entry under said section, and in no case will the name of such party be inserted in the certificate of entry. This regulation has no reference to proceedings under section 2326.

94. Any party applying to make entry as *trustee* must disclose fully the nature of the trust and the name of the *cestui que trust;* and such trustees, as well as the beneficiaries, must furnish satisfactory proof of citizenship; and the names of beneficiaries, as well as that of the trustee, must be inserted in the final certificate of entry.

95. No entry will be allowed until the register has satisfied himself, by a careful examination, that proper proofs have been filed upon all the points indicated in official regulations in force, and that they show a sufficient *bona fide* compliance with the laws and such regulations.

Surveys to be Adjusted to the Public Surveys.

UNITED STATES LAW.—SEC. 2327. The description of vein or lode claims, upon surveyed lands, shall designate the location of the claim with reference to the lines of the public surveys, but need not conform therewith; but where a patent shall be issued for claims upon unsurveyed lands, the surveyor-general, in extending the surveys, shall adjust the same to the boundaries of such patented claim, according to the plat or description thereof, but so as in no case to interfere with or change the location of any such patented claim.

Annual Expenditure.

ACT OF CONGRESS OF JANUARY 22, 1880.—An Act to amend sections twenty-three hundred and twenty-four and twenty-three hundred and twenty-five of the Revised Statutes of the United States concerning mineral lands.

Be it enacted, etc., That section twenty-three hundred and twenty-five of the Revised Statutes of the United States be amended by adding thereto the following words: "*Provided*, That where the claimant for a patent is not a resident of or within the land district wherein the vein, lode, ledge or deposit sought to be patented is located, the application for patent and the affidavits required to be made in this section by the claimant for such patent may be made by his, her, or its authorized agent, where said agent is conversant with the facts sought to be established by said affidavits: *And provided*, That this section shall apply to all applications now pending for patents to mineral lands."

SEC. 2. That section twenty-three hundred and twenty-four of the Revised Statutes of the United States be amended by adding the following words: "*Provided*, That the period within which the work required to be done annually on all unpatented mineral claims shall commence on the first day of January succeeding the date of location of such claim, and this section shall apply to all claims located since

the tenth day of May, anno Domini eighteen hundred and seventy-two."

ACT OF CONGRESS OF FEBRUARY 11, 1875.—An act to amend section two thousand three hundred and twenty-four of the Revised Statutes, relating to the development of the mining resources of the United States.

Be it enacted, etc., That section two thousand three hundred and twenty-four of the Revised Statutes be, and the same is hereby amended so that where a person or company has or may run a tunnel for the purpose of developing a lode or lodes, owned by said person or company, the money so expended in said tunnel shall be taken and considered as expended on said lode or lodes, whether located prior to or since the passage of said act, and such person or company shall not be required to perform work on the surface of said lode or lodes in order to hold the same as required by said act. [See page 43.]

Tunnel Rights.

UNITED STATES LAW.—SEC. 2323. Where a tunnel is run for the development of a vein or lode, or for the discovery of mines, the owners of such tunnel shall have the right of possession of all veins or lodes within three thousand feet from the face of such tunnel on the line thereof, not previously known to exist, discovered in such tunnel, to the same extent as if discovered from the surface: and locations on the line of such tunnel of veins or lodes, not appearing on the surface, made by other parties after the commencement of the tunnel, and while the same is being prosecuted with reasonable diligence, shall be invalid; but failure to prosecute the work on the tunnel for six months shall be considered as an abandonment of the right to all undiscovered veins on the line of such tunnel.

LAND OFFICE REGULATIONS.—20. Section 2323 provides that where a tunnel is run for the development of a vein or lode, or for the discovery of mines, the owner of such tunnel shall have the right of possession of all veins or lodes within three thousand feet from the face of such tunnel on the line thereof, not previously known to exist, discovered in such tunnel, to the same extent as if discovered from the surface; and locations on the line of such tunnel of veins or lodes not appearing on the surface, made by other parties after the commencement of the tunnel, and while the same is being prosecuted with reasonable diligence, shall be invalid; but failure to prosecute the work on the tunnel for six months shall be considered as an abandonment of the right to all undiscovered veins or lodes on the line of said tunnel.

21. The effect of this is simply to give the proprietors of a mining tunnel run in good faith the possessory right to fifteen hundred feet of any blind lodes cut, discovered, or intersected by such tunnel, which were not previously known to exist, within three thousand feet from the face or point of commencement of such tunnel, and to prohibit other parties, after the commencement of the tunnel, from prospecting for and making locations of lodes on the *line thereof* and within said distance of three thousand feet, unless such lodes appear upon the surface or were previously known to exist.

22. The term "face," as used in said section, is construed and held to mean the first working-face formed in the tunnel, and to signify the point at which the tunnel actually enters cover; it being from this point that the three thousand feet are to be counted, upon which prospecting is prohibited as aforesaid.

23. To avail themselves of the benefits of this provision of law, the proprietors of a mining tunnel will be required, at the time they enter cover as aforesaid, to give proper notice of their tunnel location by erecting a substantial post, board, or monument at the face or point of commencement thereof, upon which should be posted a good and sufficient notice, giving the names of the parties or company claiming the tunnel-right; the actual or proposed course or direction of the tunnel; the height and width thereof, and the course and distance from such face or point of commencement to some permanent well-known objects in the vicinity by which to fix and determine the *locus* in manner heretofore set forth applicable to locations of veins or lodes, and at the time of posting such notice they shall, in order that miners or prospectors may be enabled to determine whether or not they are within the lines of the tunnel, establish the boundary lines thereof, by stakes or monuments placed along such lines at proper intervals, to the terminus of the three thousand feet from the face or point of commencement of the tunnel, and the lines so marked will define and govern as to the specific boundaries within which prospecting for lodes not previously known to exist is prohibited while work on the tunnel is being prosecuted with reasonable diligence.

24. At the time of posting notice and marking out the lines of the tunnel as aforesaid, a full and correct copy of such notice of location defining the tunnel claim must be filed for record with the mining recorder of the district, to which notice must be attached the sworn statement or declaration of the owners, claimants, or projectors of such tunnel, setting forth the facts in the case; stating the amount expended by themselves and their predecessors in interest in prosecuting work thereon; the extent of the work performed, and that it is *bona fide* their intention to prosecute work on the tunnel so located and described with reasonable diligence for the development of a vein or lode, or for the discovery of mines, or both, as the case may be. This notice of location must be duly recorded, and, with the said sworn statement attached, kept on the recorder's files for future reference.

25. By a compliance with the foregoing much needless difficulty will be avoided, and the way for the adjustment of legal rights acquired in virtue of said section 2323 will be made much more easy and certain.

26. This office will take particular care that no improper advantage is taken of this provision of law by parties making or professing to make tunnel locations, ostensibly for the purposes named in the statute, but really for the purpose of monopolizing the lands lying in front of their tunnels to the detriment of the mining interests and to the exclusion of *bona fide* prospectors or miners, but will hold such tunnel claimants to a strict compliance with the terms of the statutes; and a *reasonable diligence* on their part in prosecuting the work is one of the essential conditions of their implied contract. Negligence or want of due diligence will be construed as working a forfeiture of their right to all undiscovered veins on the line of such tunnel.

Placer Claims.

UNITED STATES LAW.—SEC. 2329. Claims usually called "placers," including all forms of deposit, excepting veins of quartz, or other rock in place, shall be subject to entry and patent, under like circumstances and conditions, and upon similar proceedings, as are provided for vein or lode claims; but where the lands have been previously surveyed by the United States, the entry in its exterior limits shall conform to the legal subdivisions of the public lands.

LAND OFFICE REGULATIONS.—52. The proceedings to obtain patents for claims

usually called placers, including all forms of deposit, excepting veins of quartz or other rock in place, are similar to the proceedings prescribed for obtaining patents for vein or lode claims; but where said placer claim shall be upon surveyed lands, and conform to legal subdivisions, no further survey or plat will be required, and all placer mining claims located after May 10, 1872, shall conform as nearly as practicable with the United States system of public-land surveys and the rectangular subdivisions of such surveys, and no such location shall include more than twenty acres for each individual claimant; but where placer claims can not be conformed to legal subdivisions, survey and plat shall be made as on unsurveyed lands. But where such claims are located previous to the public surveys, and do not conform to legal subdivisions, survey, plat, and entry thereof may be made according to the boundaries thereof, provided the location is in all respects legal.

53. The proceedings for obtaining patents for veins or lodes having already been fully given, it will not be necessary to repeat them here, it being thought that careful attention thereto by applicants and the local officers will enable them to act understandingly in the matter and make such slight modifications in the notice, or otherwise, as may be necessary in view of the different nature of the two classes of claims, placer claims being fixed, however, at two dollars and fifty cents per acre, or fractional part of an acre.

Legal Subdivisions—Ten Acre Lots

UNITED STATES LAW.—SEC. 2330. Legal subdivisions of forty acres may be subdivided into ten-acre tracts; and two or more persons, or associations of persons, having contiguous claims of any size, although such claims may be less than ten acres each, may make joint entry thereof; but no location of a placer-claim, made after the ninth day of July, eighteen hundred and seventy, shall exceed one hundred and sixty acres for any one person or association of persons, which location shall conform to the United States surveys; and nothing in this section contained shall defeat or impair any bona fide pre-emption or homestead claim upon agricultural lands, or authorize the sale of the improvements of any bona fide settler to any purchaser.

SEC. 2331. Where placer-claims are upon surveyed lands, and conform to legal subdivisions, no further survey or plat shall be required, and all placer-mining claims located after the tenth day of May, eighteen hundred and seventy-two, shall conform as near as practicable with the United States system of public-land surveys, and the rectangular subdivisions of such surveys, and no such location shall include more than twenty acres for each individual claimant; but where placer-claims can not be conformed to legal subdivisions, survey and plat shall be made as on unsurveyed lands; and where by the segregation of mineral lands in any legal subdivision a quantity of agricultural land less than forty acres remains, such fractional portions of agricultural land may be entered by any party qualified by law, for homestead or pre-emption purposes.

LAND OFFICE REGULATIONS.—54. By section 2330, authority is given for the subdivision of forty-acre legal subdivisions into *ten-acre* lots, which is intended for the greater convenience of miners in segregating their claims both from one another and from intervening agricultural lands.

55. It is held, therefore, that under a proper construction of the law these ten-acre

lots in mining districts should be considered and dealt with, to all intents and purposes, as legal subdivisions, and that an applicant having a legal claim which conforms to one or more of these ten-acre lots, either adjoining or cornering, may make entry thereof, after the usual proceedings, without further survey or plat.

56. In cases of this kind, however, the notice given of the application must be very specific and accurate in description, and as the forty-acre tracts may be subdivided into ten-acre lots, either in the form of squares of ten by ten chains, or if parallelograms five by twenty chains, so long as the lines are parallel and at right angles with the lines of the public surveys, it will be necessary that the notice and application state specifically what ten-acre lots are sought to be patented, in addition to the other *data* required in the notice.

57. Where the ten-acre subdivision is in the form of a square it, may be described, for instance, as the "SE. ¼ of the SW. ¼ of NW. ¼," or, if in the form of a parallelogram as aforesaid, it may be described as the "W. ½ of the W. ½ of the SW. ¼ of the NW. ¼ (or the N. ½ of the S. ½ of the NE. ¼ of the SE. ¼) of section ———, township ——— range ———," as the case may be; but, in addition to this description of the land, the notice must give all the other *data* that is required in a mineral application, by which parties may be put on inquiry as to the premises sought to be patented. The proofs submitted with applications for claims of this kind must show clearly the character and the extent of the improvements upon the premises.

Inasmuch as the surveyor-general has no duty to perform in connection with the entry of a placer claim of legal subdivisions, the proof of improvements must show their value to be not less than *five hundred dollars*, and that they were made by the applicant for patent or his grantors. The annual expenditure to the amount of $100, required by Section 2324, Revised Statutes, must be made upon placer claims as well as lode claims.

59. By Section 2330, it is declared that no location of a placer claim, made after July 9, 1870, shall exceed one hundred and sixty acres for any one person or association of persons, which location shall conform to the United States surveys.

60. Section 2331 provides that all placer-mining claims located after May 10, 1872, shall conform as nearly as practicable with the United States systems of public surveys, and the subdivisions of such surveys, and no such locations shall include more than twenty acres for each individual claimant.

61. The foregoing provisions of law are construed to mean that after the 9th day of July, 1870, no location of a placer claim can be made to exceed one hundred and sixty acres, whatever may be the number of locators associated together, or whatever the local regulations of the district may allow; and that from and after May 10, 1872, no location made by an individual can exceed twenty acres, and no location made by an association of individuals can exceed one hundred and sixty acres, which location of one hundred and sixty acres can not be made by a less number than eight *bona fide* locators; and no local laws or mining regulations can restrict a placer location to less than twenty acres, although the locator is not compelled to take so much.

Placer Claims Containing Lodes.

UNITED STATES LAW.—SEC. 2333. Where the same person, association, or corporation is in possession of a placer-claim, and also a vein or lode included within the boundaries thereof, application shall be made for a patent for the placer claim, with the statement that it includes such vein or lode, and in such case a patent shall issue for a

placer-claim, subject to the provisions of this chapter, including such vein or lode, upon the payment of five dollars per acre for such vein or lode claim, and twenty-five feet of surface on each side thereof. The remainder of the placer claim, or any placer claim not embracing any vein or lode claim, shall be paid for at the rate of two dollars and fifty cents per acre, together with all costs of proceedings; and where a vein or lode, such as is described in section twenty three hundred and twenty, is known to exist within the boundaries of a placer claim, an application for a patent for such placer claim which does not include an application for the vein or lode claim shall be construed as a conclusive declaration that the claimant of the placer claim has no right of possession of the vein or lode claim; but where the existence of a vein or lode in a placer-claim is not known, a patent for the placer-claim shall convey all valuable mineral and other deposits within the boundaries thereof.

LAND OFFICE REGULATIONS.—58. Applicants for patent to a placer claim, who are also in possession of a known vein or lode included therein, must state in their application that the placer includes such vein or lode. The published and posted notices must also include such statement. If veins or lodes lying within a placer location are owned by other parties, the fact should be distinctly stated in the application for patent, and in all the notices. But in all cases whether the lode is claimed or excluded, it must be surveyed and marked upon the plat; the field notes and plat giving the area of the lode claim or claims and the area of the placer separately. It should be remembered that an application which omits to include an application for a known vein or lode therein, must be construed as a conclusive declaration that the applicant has no right of possession to the vein or lode. Where there is no known lode or vein, the fact must appear by the affidavit of two or more witnesses.

Placer Locations and Applications.

LAND OFFICE REGULATIONS.—62. The regulations hereinbefore given as to the manner of marking locations on the ground, and placing the same on record, must be observed in the case of placer locations so far as the same are applicable, the law requiring, however, that where placer claims are upon *surveyed* public lands the locations must hereafter be made to conform to legal subdivisions thereof as near as practicable.

63. The first care in recognizing an application for patent upon a placer claim must be exercised in determining the exact classification of the lands. To this end the clearest evidence of which the case is capable should be presented.

(1) If the claim be all placer ground, that fact must be stated in the application and corroborated by accompanying proofs; if of mixed placers and lodes, it should be so set out, with a description of all known lodes situated within the boundaries of the claim. A specific declaration, such as is required by Section 2333, Revised Statutes, must be furnished as to each lode intended to be claimed. All other known lodes are, by the silence of the applicant, excluded by law from all claim by him, of whatsoever nature, possessory or otherwise.

(2) Section 2395, Revised Statutes (subdivision 7), requires the surveyor to "note in his field books the true situation of all mines, salt licks, salt springs, and mill seats which come to his knowledge;" also "all water-courses over which the lines he runs may pass." It further requires him to "note the quality of the lands." These de-

scriptive notes are required by subdivision 8 to be incorporated in the plat by the surveyor-general.

(3) If these duties have been performed, the public surveys will furnish a reasonable guide to the district officers and to claimants in prosecuting their applications. But experience has shown that great neglect has resulted from inattention to the law in this respect, and the regular plats are of very little value in the matter. It will, therefore, be required in the future that deputy surveyors shall, at the expense of the parties, make full examination of all placer claims surveyed by them, and duly note the facts as specified in the law, stating the quality and composition of the soil, the kind and amount of timber and other vegetation, the locus and size of streams, and such other matters as may appear upon the surface of the claim. This examination should include the character and extent of all surface and underground workings, whether placer or lode, for mining purposes.

(4) In addition to these data, which the law requires to be shown in all cases, the deputy should report with reference to the proximity of centers of trade or residence; also of well-known systems of lode deposit or of individual lodes. He should also report as to the use or adaptability of the claim for placer mining; whether water has been brought upon it in sufficient quantity to mine the same, or whether it can be procured for that purpose; and, finally, what works or expenditures have been made by the claimant or his grantors for the development of the claim, and their situation and location with respect to the same as applied for.

(5) This examination should be reported by the deputy under oath to the surveyor-general, and duly corroborated; and a copy of the same should be furnished with the application for patent to the claim, constituting a part thereof, and included in the oath of the applicant.

(6) Applications awaiting entry, whether published or not, must be made to conform to these regulations, with respect to examination as to the character of the land. Entries already made will be suspended for such additional proofs as may be deemed necessary in each case.

Possessory Right.

UNITED STATES LAW.—SEC. 2332. Where such person or association, they and their grantors, have held and worked their claims for a period equal to the time prescribed by the statute of limitations for mining claims of the State or Territory where the same may be situated, evidence of such possession and working of the claims for such period shall be sufficient to establish a right to a patent thereto under this chapter, in the absence of any adverse claim; but nothing in this chapter shall be deemed to impair any lien which may have attached in any way whatever to any mining claim or property thereto attached prior to the issuance of a patent.

LAND OFFICE REGULATIONS.—69. With regard to the proofs necessary to establish the possessory right to a mining claim, section 2332 provides that "where such person or association, they and their grantors, have held and worked their claims for a period equal to the time prescribed by the statute of limitations for mining claims of the State or Territory where the same may be situated, evidence of such possession and working of the claims for such period shall be sufficient to establish a right to a patent thereto under this chapter, in the absence of any adverse claim."

70. This provision of law will greatly lessen the burden of proof, more especially

in the case of old claims located many years since, the records of which, in many cases, have been destroyed by fire, or lost in other ways during the lapse of time, but concerning the possessory right to which all controversy or litigation has long been settled.

71. When an applicant desires to make his proof of possessory right in accordance with this provision of law, he will not be required to produce evidence of location, copies of conveyances, or abstracts of title, as in other cases, but will be required to furnish a duly certified copy of the statute of limitation of mining claims for the State or Territory, together with his sworn statement giving a clear and succinct narration of the facts as to the origin of his title, and likewise as to the continuation of his possession of the mining ground covered by his application; the area thereof; the nature and extent of the mining that has been done thereon; whether there has been any opposition to his possession, or litigation with regard to his claim, and, if so, when the same ceased; whether such cessation was caused by compromise or by judicial decree, and any additional facts within the claimant's knowledge having a direct bearing upon his possession and bona fides which he may desire to submit in support of his claim.

72. There should likewise be filed a certificate, under seal of the court having jurisdiction of mining cases within the judicial district embracing the claim, that no suit or action of any character whatever involving the right of possession to any portion of the claim applied for is pending, and that there has been no litigation before said court affecting the title to said claim or any part thereof for a period equal to the time fixed by the statute of limitations for mining claims in the State or Territory as aforesaid, other than that which has been finally decided in favor of the claimant.

73. The claimant should support his narrative of facts relative to his possession, occupancy, and improvements by corroborative testimony of any disinterested person or persons of credibility, who may be cognizant of the facts in the case, and are capable of testifying understandingly in the premises.

Proof of Citizenship of Mining Claimants.

UNITED STATES LAW.—SEC. 2321. Proof of citizenship, under this chapter, may consist, in the case of an individual, of his own affidavit thereof; in the case of an association of persons unincorporated, of the affidavit of their authorized agent, made on his own knowledge, or upon information and belief; and in the case of a corporation organized under the laws of the United States, or of any State or Territory thereof, by the filing of a certified copy of their charter or certificate of incorporation.

LAND OFFICE REGULATIONS.—76. The proof necessary to establish the citizenship of applicants for mining patents must be made in the following manner: In case of an incorporated company, a certified copy of their charter or certificate of incorporation must be filed. In case of an association of persons unincorporated, the affidavit of their duly authorized agent, made upon his own knowledge or upon information and belief, setting forth the residence of each person forming such association, must be submitted. This affidavit must be accompanied by a power of attorney from the parties forming such association, authorizing the person who makes the affidavit of citizenship to act for them in the matter of their application for patent.

77. In case of an individual or an association of individuals who do not appear by their duly authorized agent, you will require the affidavit of each applicant, showing

whether he is a native or naturalized citizen, when and where born, and his residence.

78. In case an applicant has declared his intention to become a citizen or has been naturalized, his affidavit must show the date, place, and the court before which he declared his intention, or from which his certificate of citizenship issued, and present residence.

79. The affidavit of the claimant as to his citizenship may be taken before the register or receiver, or any other officer authorized to administer oaths within the land district; or, if the claimant is residing beyond the limits of the district, the affidavit may be taken before the clerk of any court of record or before any notary public of any State or Territory.

80. If citizenship is established by the testimony of disinterested persons, such testimony may be taken at any place before any person authorized to administer oaths, and whose official character is duly verified.

Adverse Claims.

UNITED STATES LAW.—SEC. 2326. Where an adverse claim is filed during the period of publication, it shall be upon oath of the person or persons making the same, and shall show the nature, boundaries, and extent of such adverse claim, and all proceedings, except the publication of notice and making and filing of the affidavit thereof, shall be stayed until the controversy shall have been settled or decided by a court of competent jurisdiction, or the adverse claim waived. It shall be the duty of the adverse claimant, within thirty days after filing his claim, to commence proceedings in a court of competent jurisdiction, to determine the question of the right of possession, and prosecute the same with reasonable diligence to final judgment; and a failure so to do shall be a waiver of his adverse claim. After such judgment shall have been rendered, the party entitled to the possession of the claim, or any portion thereof, may, without giving further notice, file a certified copy of the judgment-roll with the register of the land-office, together with the certificate of the surveyor general that the requisite amount of labor has been expended or improvements made thereon, and the description required in other cases, and shall pay to the receiver five dollars per acre for his claim, together with the proper fees, whereupon the whole proceedings and the judgment-roll shall be certified by the register to the Commissioner of the General Land Office, and a patent shall issue thereon for the claim, or such portion thereof as the applicant shall appear, from the decision of the court, to rightly possess. If it appears from the decision of the court that several parties are entitled to separate and different portions of the claim, each party may pay for his portion of the claim with the proper fees, and file the certificate and description by the surveyor-general, whereupon the register shall certify the proceedings and judgment-roll to the Commissioner of the General Land Office, as in the preceding case, and patents shall issue to the several parties according to their respective rights. Nothing herein contained shall be construed to prevent the alienation of a title conveyed by a patent for a mining-claim to any person whatever.

LAND OFFICE REGULATIONS.—81. Section 2326, and the act of April 26, 1882,

provide for adverse claims, fix the time within which they shall be filed to have legal effect, and prescribe the manner of their adjustment, etc.

82. An adverse mining claim must be filed with the register and receiver of the Land Office where the application for patent was filed, or with the register and receiver of the district in which the land is situated at the time of filing the adverse claim. It must be on the oath of the adverse claimant, or it may be verified by the oath of any duly authorized agent or attorney-in-fact of the adverse claimant, cognizant of the facts stated.

83. Where an agent or attorney-in-fact verifies the adverse claim, he must distinctly swear that he is such agent or attorney, and accompany his affidavit by proof thereof.

84. The agent or attorney-in-fact must make the affidavit in verification of the adverse claim within the land district where the claim is situated.

85. The adverse notice must fully set forth the nature and extent of the interference or conflict; whether the adverse party claims as a purchaser for valuable consideration or as a locator; if the former, a certified copy of the original location, the original conveyance, a duly certified copy thereof, or an abstract of title from the office of the proper recorder should be furnished, or if the transaction was a merely verbal one he will narrate the circumstances attending the purchase, the date thereof, and the amount paid, which facts should be supported by the affidavit of one or more witnesses, if any were present at the time, and if he claims as a locator he must file a duly certified copy of the location from the office of the proper recorder.

86. In order that the "*boundaries*" and "*extent*" of the claim may be shown, it will be incumbent upon the adverse claimant to file a plat showing his entire claim, its relative situation or position with the one against which he claims, and the extent of the conflict. This plat must be made from an actual survey by a United States deputy surveyor, who will officially certify thereon to its correctness; and in addition there must be attached to such plat of survey a certificate or sworn statement by the surveyor as to the approximate value of the labor performed or improvements made upon the claim by the adverse party or his predecessors in interest, and the plat must indicate the position of any shafts, tunnels, or other improvements, if any such exist, upon the claim of the party opposing the application, and by which party said improvements were made: *provided, however*, That, if the application for patent describes the claim by legal subdivisions, the adverse claimant if also claiming by legal subdivisions, may describe his adverse claim in the same manner without further survey or plat.

87. Upon the foregoing being filed within the sixty days as aforesaid, the register, or in his absence the receiver, will give notice in writing to *both parties* to the contest that such adverse claim has been filed, informing them that the party who filed the adverse claim will be required within thirty days from the date of such filing to commence proceedings in a court of competent jurisdiction to determine the question of right of possession, and to prosecute the same with reasonable diligence to final judgment, and that, should such adverse claimant fail to do so, his adverse claim will be considered waived, and the application for patent be allowed to proceed upon its merits.

88. When an adverse claim is filed as aforesaid, the register or receiver will endorse upon the same the precise date of filing, and preserve a record of the date of notifications issued thereon; and thereafter all proceedings on the application for patent will be suspended, with the exception of the completion of the publication and posting of notices and plat, and the filing of the necessary proof thereof, until the con-

troversy shall have been adjudicated in court, or the adverse claim waived or withdrawn.

89. Where an adverse claim has been filed and suit thereon commenced within the statutory period, and final judgment determining the right of possession rendered in favor of the applicant, it will not be sufficient for him to file with the register a certificate of the clerk of the court, setting forth the facts as to such judgment, but he must, before he is allowed to make entry, file a certified copy of the judgment, together with the other evidence required by section 2326, Revised Statutes.

90. Where such suit has been dismissed, a certificate of the clerk of the court to that effect, or a certified copy of the order of dismissal, will be sufficient.

91. In no case will a relinquishment of the ground in controversy, or other proof filed with the register or receiver, be accepted in lieu of the evidence required.

92. Where an adverse claim has been filed, but no suit commenced against the applicant for patent within the statutory period, a certificate to that effect by the clerk of the State court having jurisdiction in the case, and also by the clerk of the circuit court of the United States for the district in which the claim is situated, will be required.

Agent—Adverse Claim—Citizenship of Applicant.

ACT OF CONGRESS OF APRIL 26, 1882.—An Act to amend section twenty-three hundred and twenty-six of the Revised Statutes, in regard to mineral lands, and for other purposes.

Be it enacted, etc., That the adverse claim required by section twenty-three hundred and twenty six of the Revised Statutes may be verified by the oath of any duly authorized agent or attorney in fact of the adverse claimant, cognizant of the facts stated, and the adverse claimant, if residing or at the time being beyond the limits of the district wherein the claim is situated, may make oath to the adverse claim before the clerk of any court of record of the United States or the State or Territory where the adverse claimant may then be, or before any notary public of such State or Territory.

SEC. 2. That applicants for mineral patents, if residing beyond the limits of the district wherein the claim is situated, may make any oath or affidavit required for proof of citizenship before the clerk of any court of record, or before any notary public of any State or Territory.

Suits at Law.

ACT OF CONGRESS OF MARCH 3, 1881.—An Act to amend section twenty-three hundred and twenty-six of the Revised Statutes, relating to suits at law affecting the title to mining claims.

Be it enacted, etc., That if, in any action brought pursuant to section twenty-three hundred and twenty-six of the Revised Statutes, title to the ground in controversy shall not be established by either party, the jury shall so find, and judgment shall be entered according to the verdict. In such case costs shall not be allowed to either party, and the claimant shall not proceed in the land office, or be entitled to a patent for the ground in controversy, until he shall have perfected his title.

Appointment of Deputy Surveyors of Mining Claims—Charges for Surveys and Publications—Fees for Registers and Receivers, etc.

UNITED STATES LAW.—SEC. 2334. The surveyor-general of the United States may appoint in each land-district containing mineral lands as many competent surveyors as shall apply for appointment to survey mining-claims. The expenses of the survey of vein or lode claims, and the survey and subdivision of placer-claims into smaller quantities than one hundred and sixty acres, together with the cost of publication of notices, shall be paid by the applicants, and they shall be at liberty to obtain the same at the most reasonable rates, and they shall also be at liberty to employ any United States deputy surveyor to make the survey. The Commissioner of the General Land Office shall also have power to establish the maximum charges for surveys and publication of notices under this chapter; and, in case of excessive charges for publication, he may designate any newspaper published in a land-district where mines are situated for the publication of mining-notices in such district, and fix the rates to be charged by such paper; and, to the end that the Commissioner may be fully informed on the subject, each applicant shall file with the register a sworn statement of all charges and fees paid by such applicant for publication and surveys, together with all fees and money paid the register and the receiver of the land office, which statement shall be transmitted, with the other papers in the case, to the Commissioner of the General Land Office.

LAND OFFICE REGULATIONS.—97. Section 2334 provides for the appointment of surveyors of mineral claims, authorizes the Commissioner of the General Land Office to establish the rates to be charged for surveys and for newspaper publications.

Under this authority of law the following rates have been established as the maximum charges for newspaper publications in mining cases:

(1) Where a daily newspaper is designated, the charge shall not exceed seven dollars for each ten lines of space occupied, and where a weekly newspaper is designated as the medium of publication five dollars for the same space will be allowed. Such charge shall be accepted as full payment for publication in each issue of the newspaper for the entire period required by law.

It is expected that these notices shall not be so abbreviated as to curtail the description essential to a perfect notice, and the said rates established upon the understanding that they are to be in the usual body-type used for advertisements.

(2) For the publication of citations in contests or hearings involving the character of lands, the charges shall not exceed eight dollars for five publications in weekly newspapers, or ten dollars for publications in daily newspapers for thirty days.

98. The surveyors general of the several districts will, in pursuance of said law, appoint in each land district as many *competent* deputies for the survey of mining claims as may seek such appointment; it being distinctly understood that all expenses of these notices and surveys are to be borne by the mining claimants and not by the United States; the system of making *deposits* for mineral surveys, as required by previous instructions, being hereby revoked as regards *field work*; the claimant having the option of employing *any* deputy surveyor within such district to do his work in the field.

99. With regard to the *platting* of the claim and other *office work* in the surveyor-general's office, that officer will make an estimate of the cost thereof, which amount

the claimant will deposit with any assistant United States treasurer or designated depository in favor of the United States Treasurer, to be passed to the credit of the fund created by "individual depositors for surveys of the public lands," and file with the surveyor-general duplicate certificates of such deposit in the usual manner.

100. The surveyors-general will endeavor to appoint mineral deputy surveyors, so that one or more may be located in each mining district for the greater convenience of miners.

101. The usual oaths will be required of these deputies and their assistants as to the correctness of each survey executed by them.

The duty of the deputy mineral surveyor ceases when he has executed the survey and returned the field notes and preliminary plat thereof with his report to the surveyor-general. He will not be allowed to prepare for the mining claimant the papers in support of an application for patent, or otherwise perform the duties of an attorney before the land office in connection with a mining claim.

The surveyors-general and local land officers are expected to report any infringement of this regulation to this office.

102. The law requires that each applicant shall file with the register and receiver a sworn statement of all charges and fees paid by him for publication of notice and for survey, together with all fees and money paid the register and receiver, which sworn statement is required to be transmitted to this office for the information of the Commissioner.

103. Should it appear that excessive or exorbitant charges have been made by any surveyor or any publisher, prompt action will be taken with the view of correcting the abuse.

104. The fees payable to the register and receiver for filing and acting upon applications for mineral-land patents are five dollars to each officer, to be paid by the applicant for patent at the time of filing, and the like sum of five dollars is payable to each officer by an adverse claimant at the time of filing his claim. (Sec. 2238, R. S., paragraph 9.)

105. All fees or charges under this law may be paid in United States currency.

Affidavits—Hearings to Establish the Character of Lands.

UNITED STATES LAW.—SEC. 2335. All affidavits required to be made under this chapter may be verified before any officer authorized to administer oaths within the land-district where the claims may be situated, and all testimony and proofs may be taken before any such officer, and, when duly certified by the officer taking the same, shall have the same force and effect as if taken before the register and receiver of the land-office. In cases of contest as to the mineral or agricultural character of land, the testimony and proofs may be taken as herein provided on personal notice of at least ten days to the opposing party; or if such party cannot be found, then by publication of at least once a week for thirty days in a newspaper, to be designated by the register of the land-office as published nearest to the location of such land; and the register shall require proof that such notice has been given.

LAND OFFICE REGULATIONS.—108. The "Rules of Practice in cases before the United States district land offices, the General Land Office, and the Department of the Interior," approved August 13, 1885, will, as far as applicable, govern in all cases and proceedings arising in contests, and hearings to determine the mineral or non-mineral character of lands.

109. The only tracts of public land that will be withheld from entry as agricultural land on account of its mineral character, will be such as are returned by the surveyor-general as mineral; and even the presumption which is supported by such return may be overcome by testimony taken at a regular hearing.

110. Hearings to determine the character of land, as practically distinguished, are of two kinds:

(1) Where lands which are sought to be entered and patented as agricultural are alleged by affidavit to be mineral, or when sought as mineral their non-mineral character is alleged.

The proceedings relative to this class are in the nature of a contest between two or more known parties.

(2) When lands are returned as mineral by the surveyor-general.

When such lands are sought to be entered as agricultural, notice must be given by publication for thirty days, with posting in the local office for the same period.

111. At the hearings under either of the aforesaid classes, the claimants and witnesses will be thoroughly examined with regard to the character of the land; whether the same has been thoroughly prospected; whether or not there exists within the tract or tracts claimed any lode or vein of quartz or other rock in place, bearing gold, silver, cinnabar, lead, tin, or copper, or other valuable deposit which has ever been claimed, located, recorded, or worked; whether such work is entirely abandoned, or whether occasionally resumed; if such lode does exist, by whom claimed, under what designation, and in which subdivision of the land it lies; whether any placer mine or mines exist upon the land; if so, what is the character thereof—whether of the shallow-surface description, or of the deep cement, blue lead or gravel deposits; to what extent mining is carried on when water can be obtained, and what the facilities are for obtaining water for mining purposes; upon what particular ten-acre subdivisions mining has been done, and at what time the land was abandoned for mining purposes, if abandoned at all.

112. The testimony should also show the agricultural capacities of the land, what kind of crops are raised thereon, and the value thereof; the number of acres actually cultivated for crops of cereals or vegetables, and within which particular ten-acre subdivision such crops are raised; also which of these subdivisions embrace the improvements, giving in detail the extent and value of the improvements, such as house, barn, vineyard, orchard, fencing, etc., and mining improvements.

113. The testimony should be as full and complete as possible; and in addition to the leading points indicated above, where an attempt is made to prove the mineral character of lands which have been entered under the agricultural laws, it should show at what date, if at all, valuable deposits of mineral were first known to exist on the lands.

114. When the case comes before this office, such decision will be made as the law and the facts may justify; and in cases where a survey is necessary to set apart the mineral from the agricultural land, the necessary instructions will be given to enable the proper party, *at his own expense*, to have the work done, at his option, either by United States deputy, county, or other local surveyor; the surveyor in such case, where the claims to be segregated are vein or lode claims, must be executed in such manner as will conform to the requirements in section 2320, U. S. Revised Statutes, as to length and width and parallel end lines.

115. Such survey when executed must be properly sworn to by the surveyor, either before a notary public, officer of a court of record, or before the register or receiver,

the deponent's character and credibility to be properly certified to by the officer administering the oath.

116. Upon the filing of the plat and field notes of such survey, duly sworn to as aforesaid, you will transmit the same to the surveyor-general for his verification and approval; who if he finds the work correctly performed, will properly mark out the same upon the original township plat in his office, and furnish authenticated copies of such plat and description both to the proper local land office and to this office, to be affixed to the duplicate and triplicate township plats respectively.

117. With the copy of plat and description furnished the local office and this office, must be a diagram tracing, verified by the surveyor-general, showing the claim or claims segregated, and designating the separate fractional agricultural tracts in each 40-acre legal subdivision by the proper lot number, beginning with No. 1 in each section, and giving the area in each lot, the same as provided in paragraph 45, in the survey of mining claims on surveyed lands.

118. The fact that a certain tract of land is decided upon testimony to be mineral in character is by no means equivalent to an award of the land to a miner. A miner is compelled by law to give sixty days' publication of notice, and posting of diagrams and notices, as a preliminary step; and then, before he can enter the land, he must show that the land yields mineral; that he is entitled to the possessory right thereto in virtue of compliance with local customs or rules of miners, or by virtue of the statute of limitations; that he or his grantors have expended, in actual labor and improvements, an amount of not less than five hundred dollars thereon, and that the claim is one in regard to which there is no controversy or opposing claim. After all these proofs are met, he is entitled to have a survey made at his own cost where a survey is required, after which he can enter and pay for the land embraced by his claim.

119. Blank forms for proofs in mineral cases are not furnished by the General Land Office.

Mill-sites.

UNITED STATES LAW.—SEC. 2337. Where non-mineral land not contiguous to the vein or lode is used or occupied by the proprietor of such vein or lode for mining or milling purposes, such non-adjacent surface-ground may be embraced and included in an application for a patent for such vein or lode, and the same may be patented therewith, subject to the same preliminary requirements as to survey and notice as are applicable to veins or lodes; but no location hereafter made of such non-adjacent land shall exceed five acres, and payment for the same must be made at the same rate as fixed by this chapter for the superficies of the lode. The owner of a quartz mill or reduction-works, not owning a mine in connection therewith, may also receive a patent for his mill site, as provided in this section.

LAND OFFICE REGULATIONS.—65. To avail themselves of this provision of law, parties holding the possessory right to a vein or lode, and to a piece of non-mineral land not contiguous thereto, for mining or milling purposes, not exceeding the quantity allowed for such purpose by section 2337, United States Revised Statutes, or prior laws, under which the land was appropriated, the proprietors of such vein or lode may file in the proper land-office their application for a patent, under oath, in manner already set forth herein, which application, together with the plat and field-notes, may include, embrace, and describe, in addition to the vein or lode, such non-contiguous mill-site, and after due proceedings as to notice, etc., a patent will be issued conveying the same as one claim.

66. In making a survey in a case of this kind, the lode claim should be described in the plat and field-notes as "Sur. No. 37, A," and the mill-site as "Sur. No. 37, B," or whatever may be its appropriate numerical designation; the course and distance from a corner of the mill-site to a corner of the lode claim to be invariably given in such plat and field-notes, and a copy of the plat and notice of application for patent must be conspicuously posted upon the mill-site as well as upon the vein or lode for the statutory period of sixty days. In making the entry no separate receipt or certificate need be issued for the mill-site, but the whole area of both lode and mill-site will be embraced in one entry, the price being five dollars for each acre and fractional part of an acre embraced by such lode and mill-site claim.

67. In case the owner of a quartz mill or reduction-works is not the owner or claimant of a vein or lode, the law permits him to make application therefor in the same manner prescribed herein for mining claims, and after due notice and proceedings, in the absence of a valid adverse filing, to enter and receive a patent for his mill-site at said price per acre.

68. In every case there must be satisfactory proof that the land claimed as a mill-site is not mineral in character, which proof may, where the matter is unquestioned, consist of the sworn statement of two or more persons capable from acquaintance with the land to testify understandingly.

Water Rights.

UNITED STATES LAW.—SEC. 2339. Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed; but whenever any person, in the construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

SEC. 2340. All patents granted, or pre emption or homesteads allowed, shall be subject to any vested and accrued water-rights, or rights to ditches and reservoirs, used in connection with such water-rights, as may have been acquired under or recognized by the preceding section.

SEC. 17. ACT OF CONGRESS MARCH 3, 1891.—An act to repeal timber culture laws and for other purposes. That reservoir sites located or selected and to be located and selected under the provisions of "An act making appropriations for sundry civil expenses of the government for the fiscal year ending June 30, 1889, and for other purposes," and amendments thereto, shall be restricted to and shall contain only so much land as is actually necessary for the construction and maintenance of reservoirs; excluding so far as practicable lands occupied by actual settlers at the date of the location of said reservoirs, and that the provision of "An act making appropriations for sundry civil expenses of the government for the fiscal year ending June 30, 1891, and for other purposes," which reads as follows, namely: "No person who shall, after the passage of this act, enter upon any of the public lands with a view to occupation, entry, or settlement under any

of the land laws, shall be permitted to acquire title to more than 320 acres in the aggregate under all said laws," shall be construed to include in the maximum amount of lands the title to which is permitted to be acquired by one person only agricultural lands, and not to include lands entered or sought to be entered under mineral land laws.

SEC. 18. That the right of way through the public lands and reservations of the United States is hereby granted to any canal or ditch company, formed for the purpose of irrigation and duly organized under the laws of any State or Territory, which shall have filed, or may hereafter file, with the Secretary of the Interior, a copy of its articles of incorporation, and due proofs of its organization under the same, to the extent of the ground occupied by the water of the reservoir, and of the canal and its laterals, and 50 feet on each side of the marginal limits thereof; also the right to take from the public lands adjacent to the line of the canal or ditch, material, earth, and stone necessary for the construction of such canal or ditch: *Provided*, That no such right of way shall be so located as to interfere with the proper occupation by the government of any such reservation; and all maps of location shall be subject to the approval of the department of the government having jurisdiction of such reservation, and the privilege herein granted shall not be construed to interfere with the control of water for irrigation and other purposes under authority of the respective States or Territories.

SEC. 19. That any canal or ditch company desiring to secure the benefits of this act shall, within twelve months after the location of 10 miles of its canal, if the same be upon surveyed lands, and if upon unsurveyed lands, within twelve months after the survey thereof by the United States, file with the register of the land office for the district where such land is located a map of its canal or ditch and reservoir; and upon the approval thereof by the Secretary of the Interior the same shall be noted upon the plats in said office, and thereafter all such lands over which such rights of way shall pass shall be disposed of subject to such right of way. Whenever any person or corporation, in the construction of any canal, ditch, or reservoir, injures or damages the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

SEC. 20. That the provisions of this act shall apply to all canals, ditches, or reservoirs, heretofore or hereafter constructed, whether constructed by corporations, individuals, or associations of individuals, on the filing of the certificates and maps herein provided for. If such ditch, canal or reservoir has been or shall be constructed by an individual or association of individuals it shall be sufficient for such individual or association of individuals to file with the Secretary of the Interior, and with the register of the land office where said land is located, a map of the line of such canal, ditch or reservoir, as in case of a corporation, with the name of the individual owner or owners thereof, together with the articles of association, if any there be. Plats heretofore filed shall have the benefits of this act from the date of their filing, as though filed under it: *Provided*, That if any section of said canal or ditch shall not be completed within five years after the location

of said section, the rights herein granted shall be forfeited as to any uncompleted section of said canal, ditch, or reservoir, to the extent that the same is not completed at the date of the forfeiture.

SEC. 23. That nothing in this act shall authorize such canal or ditch company to occupy such right of way except for the purpose of said canal or ditch, and then only so far as may be necessary for the construction, maintenance, and care of said canal or ditch.

ACT OF CONGRESS OF AUGUST 30, 1890.—An Act making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and ninety-one, and for other purposes.

Be it enacted, etc. No person who shall, after the passage of this act, enter upon any of the public lands with a view to occupation, entry, or settlement under any of the land laws shall be permitted to acquire title to more than three hundred and twenty acres in the aggregate, under all of said laws [except mineral lands—Editor.], but this limitation shall not operate to curtail the right of any person who has heretofore made entry or settlement on the public lands, or whose occupation, entry, or settlement is validated by this act: *Provided*, That in all patents for lands hereafter taken up under any of the land laws of the United States or on entries or claims validated by this act, west of the one hundredth meridian, it shall be expressed that there is reserved from the lands in said patent described a right of way thereon for ditches or canals constructed by the authority of the United States. * *

Townsites on Mineral Lands.

UNITED STATES LAW.—SEC. 2386. Where mineral veins are possessed, which possession is recognized by local authority, and to the extent so possessed and recognized, the title to town-lots to be acquired shall be subject to such recognized possession and the necessary use thereof; but nothing contained in this section shall be so construed as to recognize any color of title in possessors for mining purposes, as against the United States.

ACT OF CONGRESS OF MARCH 3, 1891.—An Act to repeal timber-culture laws, and for other purposes.

SEC. 16. That townsite entries may be made by incorporated towns and cities on the mineral lands of the United States, but no title shall be acquired by such towns or cities to any vein of gold, silver, cinnabar, copper, or lead, or to any valid mining claim or possession held under existing law. When mineral veins are possessed within the limits of an incorporated town or city, and such possession is recognized by local authority or by the laws of the United States, the title to town lots shall be subject to such recognized possession and the necessary use thereof and when entry has been made or patent issued for such townsites to such incorporated town or city, the possessor of such mineral vein may enter and receive patent for such mineral vein, and the surface ground appertaining thereto: *Provided*, That no entry shall be made by such mineral-vein claimant for surface ground where the owner or occupier of the surface ground shall have had possession of the same before the inception of the title of the mineral-vein applicant.

Easements.

UNITED STATES LAW.—SEC. 2338. As a condition of sale, in the absence of necessary legislation by Congress, the local legislature of any state or territory may provide rules for working mines, involving easements, drainage, and other necessary means to their complete development; and those conditions shall be fully expressed in the patent.

Homestead and Pre-emption Claims.

UNITED STATES LAW.—SEC. 2341. Wherever, upon the lands heretofore designated as mineral lands, which have been excluded from survey and sale, there have been homesteads made by citizens of the United States, or persons who have declared their intention to become citizens, which homesteads have been made, improved, and used for agricultural purposes, and upon which there have been no valuable mines of gold, silver, cinnabar, or copper discovered, and which are properly agricultural lands, the settlers or owners of such homesteads shall have a right of pre-emption thereto, and shall be entitled to purchase the same at the price of one dollar and twenty-five cents per acre, and in quantity not to exceed one hundred and sixty acres; or they may avail themselves of the provisions of chapter five of this Title, relating to "HOMESTEADS."

SEC. 2342. Upon the survey of the lands described in the preceding section, the Secretary of the Interior may designate and set apart such portions of the same as are clearly agricultural lands, which lands shall thereafter be subject to pre-emption and sale as other public lands, and be subject to all the laws and regulations applicable to the same.

Certain States Excepted.

UNITED STATES LAW.—SEC. 2345. The provisions of the preceding sections of this chapter shall not apply to the mineral lands situated in the States of Michigan, Wisconsin, and Minnesota, which are declared free and open to exploration and purchase, according to legal subdivisions, in like manner as before the tenth day of May, eighteen hundred and seventy-two. And any bona fide entries of such lands within the States named since the tenth of May, eighteen hundred and seventy-two, may be patented without reference to any of the foregoing provisions of this chapter. Such lands shall be offered for public sale in the same manner, at the same minimum price, and under the same rights of pre-emption, as other public lands.

ACT OF CONGRESS OF MAY 5, 1876.—An Act to exclude the States of Missouri and Kansas from the provisions of the act of Congress entitled "An act to promote the development of the mining resources of the United States," approved May tenth, eighteen hundred and seventy-two.

Be it enacted, etc., That within the States of Missouri and Kansas deposits of coal, iron, lead, or other mineral be, and they are hereby excluded from the operation of the act entitled "An act to promote the development of the mining resources of the United States," approved May tenth, eighteen hundred and seventy-two, and all lands in said States shall be subject to disposal as agricultural lands.

ACT OF CONGRESS OF MARCH 3, 1883.—An Act to exclude the pub lic lands in Alabama from the operation of the laws relating to mineral lands.

Be it enacted, etc., That within the State of Alabama all public lands, whether mineral or otherwise, shall be subject to disposal only as agricultural lands: *Provided, however*, That all lands which have heretofore been reported to the General Land Office as containing coal and iron shall first be offered at public sale: *And provided further*, That any bona fide entry under the provisions of the homestead law of lands within said State heretofore made may be patented without reference to an act approved May tenth, eighteen hundred and seventy-two, entitled, "An act to promote the development of the mining resources of the United States," in cases where the persons making application for such patents have in all other respects complied with the homestead law relating thereto.

ALASKA.

ACT OF CONGRESS OF MAY 17, 1884. An Act providing a civil government for Alaska.

SEC. 8. That the said district of Alaska is hereby created a land district, and a United States land office for said district is hereby located at Sitka. The commissioner provided for by this act to reside at Sitka shall be ex-officio register of said land office, and the clerk provided for by this act shall be ex-officio receiver of public moneys, and the marshal provided for by this act shall be ex officio surveyor-general of said district, and the laws of the United States relating to mining claims, and the rights incident thereto, shall, from and after the passage of this act, be in full force and effect in said district, under the administration thereof herein provided for, subject to such regulations as may be made by the Secretary of the Interior, approved by the President: *Provided*, That the Indians or other persons in said district shall not be disturbed in the possession of any lands actually in their use or occupation or now claimed by them, but the terms under which such persons may acquire title to such lands is reserved for future legislation by Congress: *And provided further*, That parties who have located mines or mineral privileges therein under the laws of the United States applicable to the public domain, or who have occupied and improved or exercised acts of ownership over such claims, shall not be disturbed therein, but shall be allowed to perfect their title to such claims by payment as aforesaid: *And provided also*, That the land not exceeding six hundred and forty acres at any station now occupied as missionary stations among the Indian tribes in said section, with the improvements thereon erected by or for such societies, shall be continued in the occupancy of the several religious societies to which said missionary stations respectively belong until action by Congress. But nothing contained in this act shall be construed to put in force in said district the general land laws of the United States.

LAND OFFICE REGULATIONS.—96. The administration of the mining laws as prescribed by these regulations will be, so far as applicable, adopted for, and extended to Alaska.

(1) The *ex-officio* register, receiver, and surveyor-general, while acting as such, and their clerks and deputy surveyors, will be deemed subject to the laws and regulations governing the official conduct and responsibilities of similar officers and persons under general statutes of the United States.

(2) The Commissioner of the General Land Office will exercise the same general supervision over the execution of the laws as are or may be exercised by him in other mineral districts.

Coal Lands.

UNITED STATES REVISED STATUTES.—SEC. 2347. Every person above the age of twenty-one years, who is a citizen of the United States, or who has declared his intention to become such, or any association of persons severally qualified as above, shall, upon application to the Register of the proper land office, have the right to enter by legal subdivisions any quantity of vacant coal lands of the United States not otherwise appropriated or reserved by competent authority, not exceeding one hundred and sixty acres to such individual person, or three hundred and twenty acres to such association, upon payment to the Receiver of not less than ten dollars per acre, for such lands where the same shall be situated more than fifteen miles from any completed railroad, and not less than twenty dollars per acre for such lands as shall be within fifteen miles of such road.

SEC. 2348. Any person or association of persons severally qualified as above provided, who have opened and improved, or shall hereafter open and improve any coal mine or mines upon the public lands, and shall be in actual possession of the same, shall be entitled to a preference-right of entry under the preceding section, of the mines so opened and improved: *Provided*, That when any association of not less than four persons, severally qualified as above provided, shall have expended not less than five thousand dollars in working and improving any such mine or mines, such association may enter not exceeding six hundred and forty acres, including such mining improvements.

SEC. 2349. All claims under the preceding section must be presented to the Register of the proper land district within sixty days after the date of actual possession and the commencement of improvements on the land, by the filing of a declaratory statement therefor; but when the township plat is not on file at the date of such improvement, filing must be made within sixty days from the receipt of such plat at the district office, and where the improvements shall have been made prior to the expiration of three months from the third day of March, eighteen hundred and seventy-three, sixty days from the expiration of such three months shall be allowed for the filing of a declaratory statement, and no sale under the provisions of this section shall be allowed until the expiration of six months from the third day of March, eighteen hundred and seventy-three.

SEC. 2350. The three preceding sections shall be held to authorize only one entry by the same person or association of persons; and no association of persons, any member of which shall have taken the benefit of such sections, either as an individual or as a member of any other association, shall enter or hold any other lands under the provisions thereof; and no member of any association which shall have

taken the benefit of such section shall enter or hold any other lands under their provisions; and all persons claiming under section twenty-three hundred and forty-eight shall be required to prove their respective rights and pay for the lands filed upon within one year from the time prescribed for filing their respective claims; and upon failure to file the proper notice or to pay for the land within the required period, the same shall be subject to entry by any other qualified applicant.

SEC. 2351. In case of conflicting claims upon coal lands where the improvements shall be commenced after the third day of March, eighteen hundred and seventy-three, priority of possession and improvement, followed by proper filing and continued good faith, shall determine the preference-right to purchase. And also where improvements have already been made prior to the third day of March, eighteen hundred and seventy-three, division of the land claimed may be made by legal subdivisions, to include as near as may be the valuable improvements of the respective parties. The Commissioner of the General Land Office is authorized to issue all needful rules and regulations for carrying into effect the provisions of this and the four preceding sections.

LAND OFFICE REGULATIONS.—Under the authority conferred by said section 2351 the following rules and regulations are issued for carrying into effect the provisions of said law:

1. Sale of coal-lands is provided for—

By ordinary *private entry* under section 2347.

By granting a *preference right* of purchase, based on priority of possession and improvement, under section 2348.

2. The land entered under either section must be *by legal subdivisions*, as made by the regular United States survey. Entry is confined to surveyed lands; to such as are vacant, not otherwise appropriated, reserved by competent authority, or containing valuable minerals other than coal.

3. Individuals and associations may purchase. If an individual, he must be twenty-one years of age and a citizen of the United States, or have declared his intention to become such citizen.

4. If an association of persons each person must be qualified as above.

5. A person is not disqualified by the ownership of any quantity of other land, nor by having removed from his own land in the same State or Territory.

6. Any individual may enter by legal subdivisions as aforesaid any area not exceeding one hundred and sixty acres.

7. Any association may enter not to exceed three hundred and twenty acres.

8. Any association of not less than four persons, duly qualified, who shall have expended not less than $5,000 in working and improving any coal mine or mines, may enter under section 2348 not exceeding six hundred and forty acres, including such mining improvements.

9. One person can have the benefit of one entry or filing *only*. He is disqualified by having made such entry or filing alone or as a member of an association. No entry can be allowed an association which has in it a single person thus disqualified, as the law prohibits the entry or holding of more than one claim either by an individual or an association.

10. Lands that are sufficiently valuable for gold, silver, or copper to prevent their entry as agricultural lands can not be entered as coal-lands; and you will not allow

any entry to be made under the above-named provisions of law of lands valuable for their deposits of said minerals.

11. The present rules relative to "hearings to establish the character of lands," contained in General Land Office regulations of October 31, 1881, issued under the mining laws, will, as far as applicable, govern your action in determining the character of lands sought to be entered as coal-lands.

12. The price per acre is $10 where the land is situated *more* than fifteen miles from any completed railroad, and $20 per acre where the land is *within* fifteen miles of such road. The price of the land, however, must be determined by its distance from a completed railroad at the date of payment and entry irrespective of the preference-right of entry.

13. When application is made to purchase coal-land at the rate of $10 per acre you will in all cases require satisfactory proof that the land applied for is at date of entry situated more than fifteen miles from any completed railroad. This proof may consist of the affidavit of the applicant, or that of his duly authorized agent, corroborated by the affidavit of some disinterested credible party showing personal knowledge of the facts.

14. Where the land lies *partly within* fifteen miles of such road and in *part outside* such limit, the *maximum* price must be paid for all legal subdivisions the greater part of which lie within fifteen miles of such road.

15. The term "completed railroad" is held to mean one which is actually constructed on the face of the earth; and lands within fifteen miles of any point of a railroad so constructed will be held and disposed of at $20 per acre.

16. Any duly qualified person or association must be preferred as purchasers of those public lands on which they have opened and improved or shall open and improve any coal mine or mines, and which they shall have in actual possession.

17. Possession by agent is recognized as the possession of the principal. The clearest proof on the point of agency must, however, be required in every case, and a clearly-defined possession must be established.

18. The *opening and improving* of a coal mine, in order to confer a preference-right of purchase, must not be considered as a mere matter of form; the labor expended and improvements made must be such as to clearly indicate the good faith of the claimant.

19. These lands are intended to be sold, where there are adverse claimants therefor, to the party who, by substantial improvements, actual possession, and a reasonable industry, shows an intention to continue his development of the mines, in preference to those who would purchase for speculative purposes only. With this view, you will require such proof of compliance with the law, when lands are applied for under section 2348 by adverse claimants, as the circumstances of each case may justify.

20. In conflicts where improvements have been or shall hereafter be commenced, priority of possession and improvement shall govern the award when the law has been fully complied with by each party. A mere possession, however, without satisfactory improvements, will not secure the tract to the first occupant when a subsequent claimant shows his full compliance with the law.

21. After an entry has been allowed to one party, you will make no investigation concerning it at the instance of any person except on instructions from this office. You will, however, receive all affidavits concerning such case and forward the same to this office, accompanied by a statement of the facts as shown by your records.

22. Prior to entry it is competent for you to order an investigation, on sufficient

grounds set forth under oath of a party in interest and substantiated by the affidavits of disinterested and credible witnesses.

MANNER OF OBTAINING TITLE.

23. When title is sought by *private entry* the party will himself make oath to the following application, which must be presented to the register:

I, ——— ———, hereby apply, under the provisions of the Revised Statutes of the United States relating to the sale of coal-lands of the United States, to purchase the ——— quarter of section ———, in township ———, of range ———, in the district of lands subject to sale at the land office at ———, and containing ——— acres; and I solemnly swear that no portion of said tract is in the possession of any other party; that I am twenty-one years of age, a citizen of the United States (or have declared my intention to become a citizen of the United States), and have never held nor purchased lands under said act, either as an individual or as a member of an association; and I do further swear that I am well acquainted with the character of said described land, and with each and every legal subdivision thereof, having frequently passed over the same; that my knowledge of said land is such as to enable me to testify understandingly with regard thereto; that said land contains large deposits of coal and is chiefly valuable therefor; that there is not to my knowledge within the limits thereof any vein or lode of quartz or other rock in place bearing gold, silver, or copper, and that there is not within the limits of said land, to my knowledge, any valuable deposit of gold, silver, or copper. So help me God.

——— ———.

24. Thereupon the register if the tract is vacant will so certify to the receiver, stating the price, and the applicant or his duly authorized agent must then pay the amount of purchase money.

25. The receiver will then issue to the purchaser a duplicate receipt, and at the close of the month the register and receiver will make returns of the sale to the General Land Office, from whence, when the proceedings are found regular, a patent or complete title will be issued; and on surrender of the duplicate receipt such patent will be delivered, at the option of the patentee, either by the Commissioner at Washington or by the register at the district land office.

26. This disposition at private entry will be subject to any valid prior adverse right which may have attached to the same land and which is protected by section 2348.

27. *Second.* When the application to purchase is based on a priority of possession, &c., as provided for in section 2348, the claimant must, when the township plat is on file in your office, file his declaratory statement for the tract claimed sixty days from and after the first day of his actual possession, and improvement. Sixty days, exclusive of the first day of possession, &c., must be allowed.

28. The declaratory statement must be substantially as follows, to wit:

I ——— ———, do solemnly swear that I am ——— years of age, and a citizen of the United States (or have declared my intention to become a citizen of the United States), that I never have, either as an individual or as a member of an association, held or purchased any coal-lands under the provisions of the Revised Statutes of the United States relating to the sale of coal-lands of the United States, and I do hereby declare my intention to purchase, under the provisions aforesaid, the ——— quarter of section ———, in township ———, of range ———, of lands subject to sale at the district land office at ———, and that I came into possession of said tract on the ——— day of ———, A. D. 18—, and have ever since remained in actual possession continuously; that I have located and opened a valuable mine of coal thereon, and have expended in labor and improvements on said mine the sum of ——— dollars, the labor and improvements being as follows: [here describe the nature and character of the improvements]; and I do furthermore solemnly swear that I am well acquainted with the character of said described land, and with each and every legal subdivision thereof, having frequently passed over the same; that my knowledge of said land is such as to enable me to testify understandingly with regard thereto; that there is not, to my knowledge, within the limits thereof any vein or lode of quartz or other rock in place bearing gold, silver, or copper, and that there is not within the limits of said land, to my knowledge, any valuable deposit of gold, silver or copper. So help me God.

——— ———.

29. When the township plat in not on file at date of claimant's first possession the declaratory statement must be filed within sixty days from the filing of such plat in your office.

30. One year from and after the expiration of the period allowed for filing the declaratory statement is given within which to make proof and payment; but you will allow no party to make final proof and payment except on notice to all others who appear on your records as claimants to the same tract.

31. A party who otherwise complies with the law may enter *after* the expiration of said year, *provided* no valid adverse right shall have intervened. He postpones his entry beyond said year at his own risk, and the government cannot thereafter protect him against another who complies with the law, and the value of his improvements can have no weight in his favor.

32. Each claimant at the time of actual purchase must make affidavit as follows:

I, ——— ———, claiming under the provisions of the Revised Statutes of the United States relating to the sale of coal-lands of the United States, the right of purchase to the ———quarter of section ———, in township ——— of range ———, subject to sale at ———, do solemnly swear that I have never had the right of purchase under the aforesaid provisions of law either as an individual or as a member of an association, and that I have never held any other lands under its provisions; I further swear that I have expended in developing coal mines on said tract in labor and improvements the sum of ——— dollars, the nature of such improvements being as follows: ——— ——— ———; that I am now in the actual possession of said mines, and make the entry for my own use and benefit, and not directly or indirectly for the use and benefit of any other party; and I do furthermore swear that I am well acquainted with the character of said described land, and with each and every legal subdivision thereof, having frequently passed over the same; that my knowledge of said land is such as to enable me to testify understandingly with regard thereto; that the same is chiefly valuable for coal; that there is not, to my knowledge, within the limits thereof any vein or lode of quartz or other rock in place bearing gold, silver, or copper, and that there is not within the limits of said land, to my knowledge, any valuable deposit of gold, silver, or copper. So help me God.

——— ———.

33. The application, declaratory statement, and the affidavit required at the time of actual purchase, the forms of which are given above under paragraphs 23, 28, and 32, may be sworn to before any officer authorized by law to administer oaths, but the authority of such officer must be properly shown.

34. Any party duly qualified under the law, *after* swearing to his application or declaratory statement, may, by a sufficient power of attorney duly executed under the laws of the State or Territory in which such party may then be residing, empower an agent to file with the register of the proper land office the application, declaratory statement, or affidavit required at the time of actual purchase, and also authorize him to make payment for an entry of the land in the name of such qualified party; and when such power of attorney shall have been filed in your office you will permit such agent to act thereunder as above indicated.

35. Where a claimant shows by affidavit that he is not personally acquainted with the character of the land, his duly authorized agent who possesses such knowledge may make the required affidavit as to its character; but whether this affidavit is made by principal or agent it must be corroborated by the affidavits of two disinterested and credible witnesses having knowledge of its character.

36. Nothing in these regulations shall be so construed as to prevent a party from proving his citizenship or age, or establishing the status of the lands sought to be entered, in accordance with ordinary rules of evidence; and any proof regularly introduced for that purpose that would be competent in a court or before a commissioner charged with the ascertainment of facts may be considered.

37. Assignments of the right to purchase will be recognized when properly executed. Proof and payment must be made, however, within the prescribed period, which dates from the first day of the possession of the assignor who initiated the claim.

38. The "Rules of Practice in cases before the United States district land offices, the General Land Office, and the Department of the Interior," approved December 20, 1880, will, as far as applicable, govern all cases and proceedings arising under the sections of the Revised Statutes above quoted providing for the sale of coal-lands of the United States.

Timber Cutting.

ACT OF CONGRESS OF JUNE 3, 1878.—An Act authorizing the citizens of Colorado, Nevada, and the Territories, to fell and remove timber on the public domain for mining and domestic purposes.

Be it enacted, etc., That all citizens of the United States and other persons, *bona fide* residents of the State of Colorado or Nevada, or either of the Territories of New Mexico, Arizona, Utah, Wyoming, Dakota, Idaho, or Montana, and all other mineral districts of the United States, shall be and are hereby, authorized and permitted to fell and remove, for building, agricultural, mining, or other domestic purposes, any timber or other trees growing or being on the public lands, said lands being mineral, and not subject to entry under existing laws of the United States, except for mineral entry, in either of said States, Territories, or districts, of which such citizens or persons may be at the time *bona fide* residents, subject to such rules and regulations as the Secretary of the Interior may prescribe for the protection of the timber and of the undergrowth growing upon such lands, and for other purposes: *Provided*, The provisions of this act shall not extend to railroad corporations.

SEC. 2. That it shall be the duty of the Register and the Receiver of any local land office in whose district any mineral land may be situated, to ascertain from time to time whether any timber is being cut or used upon any such lands, except for the purposes authorized by this act, within their respective land districts; and, if so, they shall immediately notify the Commissioner of the General Land Office of that fact; and all necessary expenses incurred in making such proper examinations shall be paid and allowed such Register and Receiver in making up their next quarterly accounts.

SEC. 3. Any person or persons who shall violate the provisions of this act, or any rules and regulations in pursuance thereof made by the Secretary of the Interior, shall be deemed guilty of a misdemeanor, and, upon conviction, shall be fined in any sum not exceeding five hundred dollars, and to which may be added imprisonment for any term not exceeding six months.

Timber and Stone.

ACT OF CONGRESS OF JUNE 3, 1878.—An Act for the sale of timber lands in the States of California, Oregon, Nevada, and in Washington Territory.

Be it enacted, etc., That surveyed public lands of the United States within the States of California, Oregon, and Nevada, and in Washington Territory, not included within military, Indian, or other reservations

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of the United States, valuable chiefly for timber, but unfit for cultivation, and which have not been offered at public sale according to law, may be sold to citizens of the United States, or persons who have declared their intention to become such, in quantities not exceeding one hundred and sixty acres to any one person or association of persons, at the minimum price of two dollars and fifty cents per acre; and lands valuable chiefly for stone may be sold on the same terms as timber lands: *Provided*, That nothing herein contained shall defeat or impair any *bona fide* claim under any law of the United States, or authorize the sale of any mining claim, or the improvements of any *bona fide* settler, or lands containing gold, silver, cinnabar, copper, or coal, or lands selected by the said States under any law of the United States donating lands for internal improvements, education, or other purposes; *And provided further*, That none of the rights conferred by the act approved July twenty-sixth, eighteen hundred and sixty-six, entitled "An Act granting the right of way to ditch and canal owners over the public lands, and for other purposes," shall be abrogated by this act; and all patents granted shall be subject to any vested and accrued water-rights, or rights to ditches and reservoirs used in connection with such water-rights as may have been acquired under and by the provisions of said act; and such rights shall be expressly reserved in any patent issued under this act.

SEC. 2. That any person desiring to avail himself of the provisions of this act shall file with the Register of the proper district a written statement in duplicate, one of which is to be transmitted to the General Land Office, designating by legal subdivisions the particular tract of land he desires to purchase, setting forth that the same is unfit for cultivation, and valuable chiefly for its timber or stone; that it is uninhabited; contains no mining or other improvements, except for ditch or canal purposes, where any such do exist, save such as were made by or belong to the applicant, nor as deponent verily believes, any valuable deposit of gold, silver, cinnabar, copper, or coal; that deponent has made no other application under this act; that he does not apply to purchase the same on speculation, but in good faith to appropriate it to his own exclusive use and benefit; and that he has not, directly or indirectly, made any agreement or contract, in any way or manner, with any person or persons whatsoever, by which the title which he might acquire from the Government of the United States should inure, in whole or in part, to the benefit of any person except himself; which statement must be verified by the oath of the applicant before the Register or the Receiver of the land office within the district where the land is situated; and if any person taking such oath shall swear falsely in the premises, he shall be subject to all the pains and penalties of perjury, and shall forfeit the money which he may have paid for said lands, and all right and title to the same; and any grant or conveyance which he may have made, except in the hands of *bona fide* purchasers, shall be null and void.

SEC. 3. That upon the filing of said statement, as provided in the second section of this act, the Register of the land office shall post a notice of such application, embracing a description of the land by legal subdivisions, in his office, for a period of sixty days, and shall furnish

the applicant a copy of the same for publication, at the expense of such applicant, in a newspaper published nearest the location of the premises, for a like period of time; and after the expiration of said sixty days, if no adverse claim shall have been filed, the person desiring to purchase shall furnish to the Register of the land office satisfactory evidence, first, that said notice of the application prepared by the Register as aforesaid was duly published in a newspaper as herein required; secondly, that the land is of the character contemplated in this act, unoccupied and without improvements, other than those excepted, either mining or agricultural, and that it apparently contains no valuable deposits of gold, silver, cinnabar, copper, or coal; and upon payment to the proper officer of the purchase-money of said land, together with the fees of the Register and the Receiver, as provided for in case of mining claims in the twelfth section of the act approved May tenth, eighteen hundred and seventy-two, the applicant may be permitted to enter said tract, and, on the transmission to the General Land Office of the papers and testimony in the case, a patent shall issue thereon: *Provided*, That any person having a valid claim to any portion of the land may object, in writing, to the issuance of a patent to lands so held by him, stating the nature of his claim thereto; and evidence shall be taken, and the merits of said objection shall be determined by the officers of the land office, subject to appeal, as in other land cases. Effect shall be given to the foregoing provisions of this act by regulations to be prescribed by the Commissioner of the General Land Office.

SEC. 6. That all acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

LAND OFFICE REGULATIONS.—The first, second, and third sections provide for the sale of surveyed lands in California, Oregon, Nevada, and in Washington Territory [all public land states—see Act of August 4, 1892] not yet proclaimed and offered at public sale, valuable chiefly for timber and stone, unfit for cultivation, and consequently for disposal under the pre-emption and homestead laws. When a party applies to purchase a tract thereunder, the Register and Receiver will require him to make affidavit that he is a citizen of the United States by birth or naturalization, or that he has declared his intention to become a citizen under the naturalization laws. If native born, parol evidence of that fact will be received; if not native born, record evidence of the prescribed qualification must be furnished. In connection herewith, he will be required to make the sworn statement in duplicate, according to the attached form, as provided for in the second section of the act. One of the duplicate statements filed in each is by the act required to be transmitted to this office, and the Registers and Receivers will accordingly send up with their monthly returns the duplicate statements to be transmitted for the month.

The evidence in regard to the publication of notice required to be furnished, in the third section of the act, must consist of the affidavit of the publisher or other person having charge of the newspaper in which the notice is published, with a copy of the notice attached thereto, setting forth the nature of his connection with the paper, and that the notice was duly published for the prescribed period. The evidence required in the same section with regard to the non-mineral character of the land, and its unoccupied and unimproved condition, must consist of the testimony of at least two disinterested witnesses, to the effect that they know the facts to which they testify from personal inspection of the land and of each of its smallest legal subdivisions, as per

form attached. This testimony may be taken before the Register or Receiver, or any officer using an official seal and authorized to administer oaths in the land district in which the land lies. Upon such proof being produced, if no adverse claim shall have been filed, the entry applied for may be allowed in pursuance of the provisions of the act. The receiver will issue his receipt for the purchase-money, and the Register his certificate of purchase, numbering the entry in the regular cash series. The Register and Receiver will enter the sale on their books, and make the usual returns therefor to this office, noting on the monthly extracts, opposite the entry, and on the entry papers, a reference to the act of Congress under which allowed. They will forward all the papers in the case with their returns to this office, except the retained duplicate statement filed under the second section of the act, to which the Register will give the same number with the other papers for the entry, and retain it on the appropriate file with the former application in his office.

The Register and Receiver will be entitled to a fee of five dollars each for allowing an entry under said act, and jointly at the rate of twenty-two cents and a half per hundred words for testimony reduced by them to writing for claimants, which will be accounted for as other fees.

If, at the expiration of the sixty days' notice provided for in the third section of the act, an adverse claim should be found to exist calling for an investigation, the Register and Receiver will allow the parties a hearing according to the rules of practice.

In case of an association of persons making application for such an entry, each of the persons must prove the requisite qualifications, and their names must appear in and be subscribed to the sworn statement, as in case of an individual person. They must also unite in the regular application for entry, which will be made in their joint names as in other cases of joint cash entry. The forms prescribed for cases of applications by individual persons may be adapted for use in applications of this class.

ACT OF CONGRESS OF AUGUST 4, 1892.—An act to authorize the entry of lands chiefly valuable for building stone under the placer mining laws.

Be it enacted, etc., That any person authorized to enter lands under the mining laws of the United States may enter lands that are chiefly valuable for building stone under the provisions of the law in relation to placer mineral claims: *Provided*, That lands reserved for the benefit of the public schools or donated to any State shall not be subject to entry under this act.

SEC. 2. That an act entitled "An act for the sale of timber lands in the States of California, Oregon, Nevada, and Washington Territory," approved June third, eighteen hundred and seventy eight, be, and the same is hereby, amended by striking out the words "States of California, Oregon, Nevada, and Washington Territory" where the same occur in the second and third lines of said act, and insert in lieu thereof the words, "public-land States," the purpose of this act being to make said act of June third, eighteen hundred and seventy-eight, applicable to all the public-land States.

SEC. 3. That nothing in this act shall be construed to repeal section twenty-four of the act entitled "An act to repeal timber-culture laws, and for other purposes," approved March third, eighteen hundred and ninety-one.

LAND OFFICE REGULATIONS.—The first section of said act extends the mineral

land laws already existing so as to bring land chiefly valuable for building stone within the provisions of said law to the extent of authorizing a *placer entry* of such land. The proviso to said first section excludes lands reserved for the benefit of the public schools or donated to any State from entry under the act.

In cases that may arise hereafter in reference to any lands subject to entry under the mining laws you will be governed by said act in admitting such entries. The proper instructions for your guidance in so doing may be found in official circular of December 10, 1891, entitled "United States Mining Laws and Regulations Thereunder," to which you are referred, and your special attention is called to the law and instructions therein relating to placer claims.

It is not the understanding of this office that the first section of said act of August 4, 1892, withdraws land chiefly valuable for building stone from entry under any existing laws applicable thereto.

The second section of said act of August 4, 1892, makes the timber and stone act of June 3, 1878 (20 Stat., 89), applicable to all the public land States. You will observe the same in acting upon applications for entries in your respective districts. For instructions you are referred to the General Circular of February 6, 1892, pages 35 to 38 inclusive.

Salt and Saline Lands.

ACT OF CONGRESS OF JANUARY 12, 1877.—An Act providing for the sale of saline lands.

Be it enacted, etc., That whenever it shall be made to appear to the Register and the Receiver of any land office of the United States that any lands within their district are saline in character, it shall be the duty of said Register and said Receiver, under the regulation of the General Land Office, to take testimony in reference to such lands to ascertain their true character, and to report the same to the General Land Office; and if upon such testimony, the Commissioner of the General Land Office shall find that such lands are saline and incapable of being purchased under any of the laws of the United States relative to the public domain, then, and in such case, such lands shall be offered for sale by public auction at the local land office of the district in which the same shall be situated, under such regulations as shall be prescribed by the Commissioner of the General Land Office, and sold to the highest bidder for cash at a price not less than one dollar and twenty-five cents per acre; and in case said lands fail to sell when so offered, then the same shall be subject to private sale, at such land office, for cash, at a price not less than one dollar and twenty five cents per acre, in the same manner as other lands of the United States are sold: *Provided*, That the foregoing enactments shall not apply to any State or Territory which has not had a grant of salines by act of Congress, nor to any State which may have had such a grant, until either the grant has been fully satisfied, or the right of selection thereunder has expired by efflux of time. But nothing in this act shall authorize the sale or conveyance of any title other than such as the United States has, and the patents issued shall be in the form of a release and quit-claim of all title of the United States in such lands.

SEC. 2. That all executive proclamations relating to the sales of public lands shall be published in only one newspaper, the same to be

printed and published in the State or Territory where the lands are situated, and to be designated by the Secretary of the Interior.

LAND OFFICE REGULATIONS.—The act provides a mode of proceeding by which public lands indicated by the field-notes of survey, or otherwise, to be *saline in character* may be rendered subject to disposal.

Should *prima facie* evidence that certain tracts are saline in character be filed with the Register and Receiver of the proper land district, they will designate a time for a hearing at their office, and give notice to all parties in interest in order that they may have ample opportunity to be present with their witnesses.

At the hearing the witnesses will be thoroughly examined with regard to the true character of the land, and whether the same contains any known mines of gold, silver, cinnabar, lead, tin, copper, or other valuable mineral deposit, or any deposit of coal.

The witnesses will also be examined in regard to the extent of the saline deposits upon the given tracts, and whether the same are claimed by any person; if so, the names of the claimants, and the extent of their improvements must be shown.

The testimony should also show the agricultural capacities of the land, what kind of crops, if any, have been raised thereon, and the value thereof. The testimony should be as full and complete as possible, and, in addition to the leading points indicated above, everything of importance bearing upon the question of the character of the land should be elicited at the hearing.

The Register and Receiver will transmit the testimony to this office with their joint opinion thereon. When the case comes before this office, such a decision will be rendered in regard to the character of the land as the law and the facts may warrant.

Should the given tracts be adjudged agricultural, they will be subject to disposal as such. Should the tracts be adjudged *saline lands*, the Register and Receiver will be instructed to offer the same for sale, after public notice, at the local land office of the district in which the same shall be situated, and to sell said tract or tracts to the highest bidder for cash, at a price of not less than $1.25 per acre.

In case said lands fail to sell when so offered, the same will be subject to private sale at such land office for cash, at a price of not less than $1.25 per acre, in the same manner as other public lands are sold.

The provisions of this act do not apply to any lands within the Territories, nor to any within the States of Mississippi, Louisiana, Florida, California, and Nevada, none of which have had a grant of salines by act of Congress.

Perjury—Penalty Thereof.

UNITED STATES LAW.—SEC. 5392. Every person who, having taken an oath before a competent tribunal, officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed is true, willfully and contrary to such oath states or subscribes any material matter which he does not believe to be true, is guilty of perjury, and shall be punished by a fine of not more than two thousand dollars, and by imprisonment at hard labor not more than five years, and shall, moreover, thereafter, be incapable of giving testimony in any court of the United States until such time as the judgment against him is reversed.

Miscellaneous Provisions.

UNITED STATES LAW.—SEC. 2343. The President is authorized to establish additional land districts, and to appoint necessary officers under existing laws, wherever he may deem the same necessary for the public convenience in executing the provisions of his chapter.

SEC. 2344. Nothing contained in this chapter shall be construed to impair, in any way, rights or interests in mining property acquired under existing laws; or to affect the provisions of the act entitled "An act granting to A. Sutro, the right of way and other privileges to aid in the construction of a draining and exploring tunnel to the Comstock lode, in the State of Nevada," approved July twenty-five, eighteen hundred and sixty-six.

SEC. 2346. No act passed at the first session of the thirty-eighth Congress, granting lands to States or corporations to aid in the construction of roads or for other purposes, or to extend the time of grants made prior to the thirtieth day of January, eighteen hundred and sixty-five, shall be so construed as to embrace mineral lands, which in all cases are reserved exclusively to the United States, unless otherwise sppecially provided in the act or acts making the grant.

Annual Expenditure.

An act to amend section numbered twenty-three hundred and twenty-four of the Revised Statutes of the United States, relating to mining claims.

Be it enacted, etc., That the provisions of section numbered twenty-three hundred and twenty-four of the Revised Statutes of the United States, which require that on each claim located after the tenth day of May, eighteen hundred and seventy-two, and until patent has been issued therefor, not less than one hundred dollars' worth of labor shall be performed or improvements made during each year, be suspended for the year eighteen hundred and ninety-three so that no mining claim which has been regularly located and recorded as required by the local laws and mining regulations shall be subject to forfeiture for non-performance of the annual assessment for the year eighteen hundred and ninety- three: *Provided*, That the claimant or claimants of any mining location, in order to secure the benefits of this act, shall cause to be recorded in the office where the location notice or certificate is filed, on or before December thirty-first, eighteen hundred and ninety-three, a notice that he or they, in good faith, intend to hold and work said claim: *Provided, however*, That the provisions of this act shall not apply to the State of South Dakota.

This act shall take effect from and after its passage,

Approved, November 3, 1893. July 18, 1894, extended through year 1894.

Hearings to Determine Character of Land.

BY CIRCULAR DATED JULY 2, 1894.—Paragraphs 109 and 110 of the "United States Mining Laws and Regulations Thereunder," approved December 10, 1891, are amended to read as follows:

109. No public land shall be withheld from entry as agricultural land on account of its mineral character, except such as is returned by the surveyor-general as mineral; and the presumption arising from such a return may be overcome by testimony taken in the manner hereinafter described.

110. Hearings to determine the character of lands are practically of two kinds, as follows:

1. When lands are returned as mineral by the surveyor-general.

When such lands are sought to be entered as agricultural under laws which require the submission of final proof after due notice by publication and posting, the filing of the proper non-mineral affidavit in the absence of allegations that the land is mineral will be deemed sufficient as a preliminary requirement. A satisfactory showing as to character of land must be made when final proof is submitted.

In case of application to enter, locate or select such lands as agricultural, under laws in which the submission of final proof after due publication and posting is *not* required, notice thereof must first be given by publication for thirty days and posting in the local office during the same period and affirmative proof as to the character of the land submitted. In the absence of allegations that the land is mineral, and upon compliance with this requirement, the entry, location or selection will be allowed, if otherwise regular.

2. When lands which are sought to be entered as agricultural are alleged by affidavit to be mineral, or when sought as mineral their non-mineral character is alleged. The proceedings in this class of cases are in the nature of a contest between two or more known parties, and are provided for in the rules of practice.

PRACTICAL FORMS.

a. FORMS.

FORM 1.

Notice of Location.

Notice is hereby given that the undersigned, having complied with the requirements of Chapter Six of Title Thirty-two of the Revised Statutes of the United States, and the local customs, laws and regulations, has located ——— linear feet on the ——— lode [twenty acres of placer mining ground], situated in ——— Mining District, ——— County, ———, and described as follows:

[*Describe the claim accurately (by courses and distances, if possible,) with reference to some natural object or permanent monument, and mark the boundaries by suitable monuments; if a placer claim is located on surveyed land, describe the legal subdivision.*]

Discovered ———, 188–. ——— ———, Locator.

Located ———, 188–. Recorded ———, 188–.

Attest:

———

———

NOTE.—Record of location notices, in absence of a District Recorder, should be made with the proper recorder of deeds for the county wherein the claim is situated. It is advisable to have these notices attested by witnesses, for locators cannot be too careful about their evidence.

In re-locations to increase width of surface ground under the local law, or to more particularly identify or describe the claim, use the above form, but state after the description that it is a re-location, and in addition, where the original location is recorded, in order that the title may revert back to the original discovery.

In locations of abandoned mines, the fact that it is such a location should be stated, and the affidavits of two or more respectable parties that such mine was abandoned and subject to re-location, should be recorded with the location notice.

Where the location is by agent, that fact should be stated after the name of the locator, thus: By Thomas Jones, agent (or attorney).

FORM 2.

Proof of Labor.

——— *of* ———, *County of* ———, *ss.*

Before me the subscriber personally appeared ———, who being duly sworn says that at least ——— dollars' worth of labor or improvements were performed or made upon [here describe claim], situated in ——— mining district, ——— county, ——— ot ———, during the year ending ———, 188–. Such expenditure was made by or at

the expense of ——— ———, owners of said claim, for the purpose of holding said claim.

[Jurat.] ——— ——— (Signature).

NOTE.—The record of an affidavit like the above is *prima facie* evidence of the performance of such labor.

FORM 3.

Notice of Forefeiture.

——— County, ——— ———, 188–.

To—(names of all parties who have record title to any portion of the mine). You are hereby notified that I have expended ——— dollars in labor and improvements upon the ——— lode (describe the claim), as will appear by certificate filed ———, 188–, in the office of the Recorder of said county (or district), in order to hold said premises under the provisions of section 2324 Revised Statutes of the United States, being the amount required to hold the same for the year ending ———, 188–. And if within ninety days from the service of this notice (or within ninety days after this notice by publication), you fail or refuse to contribute your proportion of such expenditure as a co-owner, your interest in said claim will become the property of the subscriber under said section 2324.

——— ——— (Signature).

NOTE.—At the expiration of 180 days, this notice should be recorded with the affidavit of the newspaper publisher (see Form 13), that the same was published for the period of ninety days, together with the affidavit (Form 4) of the party signing the notice to the effect that one or more of the co-owners named in the published notice have not paid their share of the expenditure. This completes the record title.

FORM 4.

Affidavit of Failure to Contribute.

——— *of* ———, *County of* ———, *ss.*

——— ———, being duly sworn, deposes and says that for the year ending ———, 188–, he expended at least ——— dollars in labor and improvements upon the ——— lode [or ——— placer claim] (here describe the claim), to hold the same under the laws of the United States and of this ——— (district, Territory or State,): that due notice thereof was personally served upon ——— ———, co-owners, on the ——— day of ———, 188–, (or was duly published in the ——— ———, as appears from the affidavit of the publisher thereof): and that ——— ——— (of the said) co-owners have failed or refused to contribute their share of said expenditures within the time required by law.

———, ———.

Subscribed and sworn to before me this ——— day of ———, 188–.

———, ———.

FORM 5.

Miner's Lien.

KNOW ALL MEN BY THESE PRESENTS, That I, ———, of the county of ———, ——— of ———, do hereby give notice of my intention to hold and claim a lien, by virtue of the statute in such case made and provided, upon ——— (describe premises), with all improvements and appurtenances, situated in ——— Mining District, County of ———, ——— of ———.

The said lien being claimed and held for and on account of *work and labor done by me as ——— for ———, owner of said premises* in and upon said premises, from the ——— day of ———, A. D. 188–, to the ——— day of ———, A. D. 188–.

The total value of the said work and labor being ——— dollars, upon which there has been paid the sum of ——— dollars, leaving a balance of ——— dollars still due, owing and unpaid to me, the said claimant.

——— ——— (Signature).

——— *of* ———, *County of* ———, *ss.*

On this ——— day of ———, A. D. 188–, personally appeared before me the above named ———, and who being by me first duly sworn, on ——— oath states that the abstract of indebtedness mentioned and described in the foregoing notice, is true and correct, and that there is still due and owing to ——— from the said ———, for the ——— aforesaid, the sum of ——— dollars and ——— cents.

——— ——— (Signature.)

Subscribed and sworn to before me this ——— day of ———, A. D. 188–.

(Official signature.)

NOTE.—For materials insert "goods furnished and delivered to owners of said premises, for use on said premises, and which were used on said premises." Below substitute "materials furnished, to wit: Powder, lumber, etc., as per bill annexed," in place of "work and labor."

FORM 6.

Application for Survey.

——— ———, 188–.

To ———, *United States Surveyor-General for* ———:

SIR—In compliance with the provisions of Chapter Six of Title Thirty-two, Revised Statutes of the United States, ——— herewith make application for an official survey of the mining claim known as the ——— mine, claimed by ———, located in ——— Mining District, in the County of ———, Township No. ———, Range No. ———, ——— base and meridian, in the ——— of ———, and ——— request that you will send to ——— address an estimate of the amount to be deposited, for the work to be done in your office; and that after such deposit shall have been made, you will cause the said mining claim to be surveyed by ———, United States Deputy Surveyor at ———.

Respectfully,

——— ———, Claimant.

P. O. Address, ———, ——— county, ———.

NOTE.—Survey is not required when placer-claims embrace legal subdivisions.

FORM 7.

Application for Patent.

———, *County of* ———, *ss.*

APPLICATION FOR PATENT FOR THE ——— ——— MINING CLAIM.

To the Register and Receiver of the U. S. Land Office at ———.

———, being duly sworn according to law, deposes and says, that in virtue of a compliance with the mining rules, regulations and customs, by himself, the said ———, and his co-claimants (residence of each should be stated), ———, applicants for patent herein ha— become the owner of and ——— in the actual, quiet and undisturbed possession of ——— linear feet of the ——— vein, lode or deposit, bearing ———, together with surface ground ——— feet in width, for the convenient working thereof, as allowed by local rules and customs of miners; said mineral claim, vein, lode or deposit and surface ground being situated in the ——— mining district, county of ———, and ——— of ———, and being more particularly set forth and described in the official field notes of survey thereof, hereto attached, dated ——— day of ———, A. D. 188–, and in the official plat of said survey, now posted conspicuously upon said mining claim or premises, a copy of which is filed herewith. Deponent further states that the facts relative to the right of possession of himself (and his said co-claimants hereinbefore named) to said mining claim, vein, lode or deposit and surface ground, so surveyed and platted, are substantially as follows, to wit:

(*Trace the history of the lode fully.*)

Which will more fully appear by reference to the copy of the original record of location and the abstract of title hereto attached and made a part of this affidavit; the value of the labor done and improvements made upon said ——— claim, by himself and his grantors, being equal to the sum of five hundred dollars, and said improvements consist of (*describe fully*). In consideration of which facts, and in conformity with the provisions of Chapter Six of Title Thirty-two of the Revised Statutes of the United States, application is hereby made for and in behalf of said ——— for a patent from the Government of the United States for the said ——— mining claim, vein, lode, deposit, and the surface ground so officially surveyed and platted.

——— ———.

Subscribed and sworn to before me this ——— day of ———, A. D. 188–, and I hereby certify that I consider the above deponent a credible and reliable person, and that the foregoing affidavit, to which was attached the field notes of survey of the ——— mining claim, was read and examined by him before his signature was affixed thereto and the oath made by him.

(Official Signature.)

NOTE.—The above is slightly changed in applying for placer-mines.

FORM 8.

Proof of Posting Notice and Diagram on the Claim.

——— *of* ———, *County of* ———, *ss.*

——— and ———, each for himself, and not one for the other, being first duly sworn according to law, deposes and says, that he is a citizen of the United States, over the age of twenty-one years, and was present on the ——— day of ———, A. D. 188– when a plat representing the ———, and certified to as correct by the United States Surveyor-General of ———, and designated by him as lot No. ———, together with a notice of the intention of ——— and ——— to apply for a patent for the mining claim and premises so platted, was posted in a conspicuous place upon said mining claim, to wit: Upon ———, where the same could be easily seen and examined; the notice so conspicuously posted upon said claim being in words and figures as follows, to wit:

NOTICE OF THE APPLICATION OF ——— AND ——— FOR A UNITED STATES PATENT.

Notice is hereby given that in pursuance of Chapter Six of Title Thirty-two of the Revised Statutes of the United States, ——— and ———, claiming ——— linear feet of the ——— vein, lode or mineral deposit, bearing ———, with surface ground ——— feet in width, lying and being situated within the ——— mining district, county of ———, and ——— of ———, ha– made application to the United States for a patent for the said mining claim, which is more fully described as to metes and bounds by the official plat herewith posted and by the field notes of survey thereof, now filed in the office of the Register of the District of Lands, subject to sale at ———, which field notes of survey describe the boundaries and extent of said claim on the surface, with magnetic variation at ——— east, as follows, to wit:

(*Full description by courses and distances.*)

the said mining claim being of record in the office of the Recorder of ———, at ———, in the county and ——— aforesaid, the presumed general course or direction of the said ——— vein, lode or mineral deposit being shown upon the plat posted herewith, as near as can be determined from present developments; this claim being for ——— linear feet thereof, together with the surface ground shown upon the official plat posted herewith, the said vein, lode and mining premises hereby sought to be patented being bounded on the ——— by the ——— mining claim.

Any and all persons claiming adversely the mining ground, vein, lode, premises, or any portion thereof so described, surveyed, platted and applied for, are hereby notified that unless their adverse claims are duly filed as according to law and the regulations thereunder within sixty days from the date hereof, with the Register of the United States Land Office at ———, in the ——— of ———, they will be barred, in virtue of the provisions of said statute.

——— ——— (Names of applicants.)

Dated on the ground this ——— day of ———, A. D. 188–.

Witness: (Names of witnesses.) ——— ———. ——— ———.

Subscribed and sworn to before me this ——— day of ———, A. D. 188–, and I hereby certify that I consider the above deponents credible and reliable witnesses, and that the foregoing affidavit and notice were read by each of them before their signatures were affixed thereto and the oath made by them.

——— ———.

NOTE.—The notice to be posted on the claim with the plat is given in the above form.

FORM 9.

Proof that Plat and Notice Remained Posted on Claim During Period of Publication.

——— *of* ———, *County of* ———, *ss.*

———, being first duly sworn according to law, deposes and says, that he is claimant (and co-owner with ———) in the ——— mining claim, ——— mining district, ——— county, the official plat of which premises, designated by the Surveyor-General as lot No. ———, together with the notice of intention to apply for a patent therefor, was posted thereon, on the ——— day of ———, A. D. 188–, as fully set forth and described in the affidavit of ——— and ———, dated the ——— day of ———, A. D 188–, which affidavit was duly filed in the office of the Register at ——— in this case; and that the plat and notice so mentioned and described, remained continuously and conspicuously posted upon said mining claim from the ——— day of ———, A. D. 188–, until and including the ——— day of ——— ———, A. D. 188–, including the sixty days period during which notice of said application for patent was published in the newspaper.

[Jurat.] ——— ———.

(One of the applicants.)

FORM 10.

Register's Certificate of Posting Notice for Sixty Days.

United States Land Office, at ———, ———, 188–.

I hereby certify that the official plat of the ——— lode designated by the Surveyor-General as lot No. ——— was filed in this office on the ——— day of ———, A. D. 188–, and that the attached notice of the intention of ——— to apply for a patent for the mining claim or premises embraced by said plat, and described in the field notes of survey thereof filed in said application, was posted conspicuously in this office on the ——— day of ———, A. D. 188–, and remained so posted until the ——— day of ———, A. D. 188–, being the full period of sixty consecutive days during the period of publication as required by law; and that said plat remained in this office during that time, subject to examination, and that no adverse claim thereto has been filed.

——— ———, *Register.*

NOTE.—The notice posted in the office should be attached to this certificate; a copy of the notice published is the one usually posted in the Register's office.

FORM 11.

Notice for Publication in Newspaper.

Mining Application No. ——.

United States Land Office, ——— ———, ———, 188–.

Notice is hereby given that ———, whose post office address is ———, has this day filed his application for a patent for ——— linear feet of the ——— mine or vein bearing ———, with surface ground ——— feet in width, situated in ——— mining district, county of ———, and ——— of ———, and designated by the field notes and official plat on file in this office as lot No. ———, in township ———, range ———, of ——— meridian, ———. Said lot No. ——— being described as follows, to wit: Beginning at, etc.

Magnetic variation ———, containing ——— acres.

The location of this mine is recorded in the Recorder's office of ———, in book ——— of ———. The adjoining claimants are ———.

Any and all persons claiming adversely any portion of said ——— mine or surface ground are required to file their adverse claims with the Register of the United States Land Office at ———, in the ——— of ———, during the sixty days period of publication hereof, or they will be barred by virtue of the provisions of the statute.

——— ———, *Register.*

FORM 12.

Agreement of Publisher.

The undersigned, publisher and proprietor of the ———, a ——— newspaper, published at ———, county of ———, and ——— of ———, does hereby agree to publish a notice, dated United States Land Office, ———, required by Chapter Six of Title Thirty-two, Revised Statutes of the United States, of the intention of ——— to apply for a patent for his claim on the ——— lode, situated in ——— mining district, county of ———, of ———, and to hold the said ——— alone responsible for the amount due for publishing the same. And it is hereby expressly stipulated and agreed that no claim shall be made against the Government of the United States, or its officers or agents, for such publication.

Witness my hand and seal this ——— day of ———, A. D. 188–.

Witness:

———. ——— ———.

FORM 13.

Proof of Publication.

——— *of* ———, *County of* ———, *ss.*

Reprint Copy of Notice of Application. } ———, being first duly sworn, deposes and says, that he is the ——— of the ———, a newspaper published at ———, in ——— county, in the ——— of ———; that the notice of the application for a patent for the ——— mining claim, of which a copy is hereto attached, was first published in said newspaper, in its issue dated the ——— of ———, 188–, and was published in each [daily or weekly] issue of said newspaper for [sixty consecutive days, or nine consecutive weeks,] thereafter, the full period of sixty days, the last publication thereof being in the issue dated the ——— of ———, 188–.

——— ———.

Subscribed and sworn to before me this ——— day of ———, A. D. 188–.

[SEAL.] ——— ———, *Notary Public.*

FORM 14.

Affidavit of Five Hundred Dollars Improvement.

——— *of* ———, *County of* ———, *ss.*

——— and ———, of lawful age, being first duly sworn according to law, depos and say that they are acquainted with the ——— mining claim in ——— mining district, county and ——— aforesaid, for which ——— has made application for patent under the provisions of Chapter Six of Title Thirty-two, Revised Statutes of the United States and that the labor done and improvements made thereon by the applicant and his grantors exceed five hundred dollars in value, and said improvements consist of (describe fully).

——— ———.

Subscribed and sworn to before me this ——— day of ———, A. D. 188–.

——— ———.

FORM 15.

Statement of Fees and Charges.

——— *of* ———, *County of* ———, *ss.*

———, being first duly sworn according to law, deposes and says that he is the applicant for patent for the ——— lode in ——— mining district, county of ———, ——— of ———, under the provisions of Chapter Six of Title Thirty-two of the Revised Statutes of the United States, and that in the prosecution of said application he has paid out the following amounts, and no more, viz.: To the credit of the Surveyor-General's office, ——— dollars; for surveying, ——— dollars; for filing in the local land office, ——— dollars; for publication of notice, ——— dollars; and for the land embraced in is claim, ——— dollars.

——— ———.

Subscribed and sworn to before me this ——— day of ———, A. D. 188–.

[SEAL.] ——— ———, *Notary Public.*

FORM 16.

Proof of Ownership and Possession in Case of Loss or Absence of Mining Records.

——— *of* ———, *County of* ———, *ss.*

——— ———, and ——— ———, each for himself, and not one for the other, being first duly sworn according to law, deposes and says that he is a citizen of the United States, over the age of twenty-one years, and a resident of ——— county, ———, and has resided in ——— mining district, wherein the ——— mine is situated, since ——— day of ———, 18—. That since said date he has been acquainted with the ——— mine, and with the possessors and workers thereof. That said mine was located and has been possessed and worked in accordance with the customs and usages of miners in said district, and in conformity with the rules and regulations governing the location, holding and working of mining claims, in force and observed in the (State) of ———. That there are no written records known to deponent existing in said mining district. That affiant is credibly informed and believes that the ——— mine was located in the year 18—, and that if any record was made of said location, and of the names of locators, the same has not been in existence for a long number of years past, and that by reason thereof the names of locators cannot now be ascertained, and no abstract of title from locators to the present owner can be made. That the possession of applicant and his predecessors in interest of said ——— mine has been actual, notorious and continuous, to the positive knowledge of deponent, since his residence in said mining district, and that such possession has been perfected and maintained in conformity with mining usages and customs, and has been acquiesced in and respected

by the miners of said district. That applicant's right to the said ——— mine is not in litigation within the knowledge of affiant, and that no action or actions have been commenced affecting the right to said mine since his acquaintance therewith (and that the time for the commencement thereof, as required to be instituted under the provisions of the Statute of Limitations of the ——— of ———, has long since elapsed). That applicant and his predecessors in interest have expended in the improvement, development and working of said mine a sum of money exceeding ——— dollars, as follows, to wit: ———.

——— ———.
——— ———.
——— ———.

Subscribed and sworn to before me this ——— day of ———, A. D. 188–, and I certify that the aforenamed ——— and ——— are credible and respectable persons, to whose affidavits full faith and credit should be given.

[SEAL.] ——— ———.

NOTE.—This should be sworn to by at least two respectable persons.

FORM 17.

Affidavit of Citizenship.

——— *of* ———, *County of* ———, *ss.*

———, being first duly sworn according to law, deposes and says, that he is the applicant for patent for ——— mining claim, situated in ——— mining district, county of ———; that he is a native-born citizen of the United States, born in ———, county ———, State of ———, in the year 18—, and is now a resident of ———.

——— ———.

Subscribed and sworn to before me this ——— day of ———, A. D. 188–.

——— ———.

NOTE.—If the applicant is a naturalized citizen, or has declared his intention to become a citizen, he should show in his affidavit where, when and before what court he was naturalized or his declaration was made.

FORM 18.

Certificate that No Suit is Pending.

——— *of* ———, *County of* ———, *ss.*

I, ———, clerk of the court in and for ——— county, ———, do hereby certify that there is now no suit or action of any character pending in said court involving the right of possession to any portion of ——— mining claim, and that there has been no litigation before said court affecting the title to said claim, or any part thereof, for ——— years last past, other than what has been finally decided in favor of ———.

In witness whereof, I have hereunto set my hand and affixed the seal of said court, at my office in ———, this ——— day of ———, A. D. 188–.

[SEAL.] ——— ———, Clerk of the ——— Court, ———.

FORM 19.

Power of Attorney to Apply for Patent.

KNOW ALL MEN BY THESE PRESENTS, that we, ——— and ———, do hereby constitute and appoint ——— as our attorney in fact, for us and in our names, to make application to the United States for the entry and purchase of certain Government lands, in ——— mining district, ——— county, ——— of ———, known as the ——— mining claim and premises; and to have the same surveyed, and to take any and all steps that may be necessary to procure from the Government of the United States a patent to

the said lands and premises, granting the same to us. And to do all other acts appertaining to the said survey and entry aforesaid as we ourselves could do by our own act and in our own proper person.

In witness whereof we have hereunto set our hands and affixed our seals the ——— day of ———, A. D. 188–.

———. [SEAL.]
———. [SEAL.]

——— *of* ———, *County of* ———, *ss.*

On this ——— day of ———, A. D. 188–, before me, ———, a Notary Public in and for the ———, county of ———, personally appeared ———, known to me to be the same person whose name ——— subscribed to the foregoing instrument, and acknowledged to me that ——— executed the same.

In witness whereof I have hereunto set my hand and affixed my official seal at my office, the day and year in this certificate first above written.

[SEAL.] ——— ———, *Notary Public.*

FORM 20.

Proof that no Known Vein Exists in a Placer Mining Claim.

——— *of* ———, *County of* ———, *ss.*

——— and ———, of the said county and ———, being first duly sworn, each for himself, deposes and says, that he is well acquainted with the ——— placer mining claim, embracing ——— ———, situated in the ——— mining district, in the county of ———, and ——— of ———, owned and worked by ———, applicant for United States patent; that for many years he has resided near, and often been upon the said mining premises, and that no known vein or veins of quartz or other rock in place, bearing gold, silver, cinnabar, lead, tin or copper, exist on said mining claim, or on any part thereof, so far as he knows, and he verily believes that none exist thereon. And further, that he has no interest whatever in the said placer-mine of ———.

———.

Subscribed and sworn to before me this ——— day of ———, A. D. 188–.

———.

NOTE.—In case any known mines exist within the exterior boundaries of the placer-claim, the names of such known veins should be given.

FORM 21.

Protest and Adverse Claim.

United States Land Office, ——— of ———.

In the matter of the application of ———, for a United States patent for the ——— lode or mining claim and the land and premises appertaining to said mine, situated in the ——— mining district, in ——— county, ——— of ———.

To the Register and Receiver of the United States Land Office at ———, *and to the above-named applicants for patent for the* ——— *lode*

You are hereby notified that ——— of the city of ———, county of ———, and ——— of ———, and a citizen of the United States of America, is the lawful owner, and entitled to the possession of ——— hundred feet of the said —— — lode or mine described in said application, as shown by the diagram posted on said claim, and the copy thereof filed in the land office with said application, and as such owner this contestant, the said ———, does protest against the issuing of a patent thereon to said applicant, and does dispute and contest the right of said applicant therefor.

And this contestant does present the nature of his adverse claim, and does fully set forth the same in the affidavit hereto attached, marked Exhibit A, and the further exhibits thereto attached, and made part of said affidavit.

The said ——— therefore respectfully asks the said Register and Receiver that all further proceedings in the matter be stayed, until a final settlement and adjudication of he rights of this contestant can be had in a court of competent jurisdiction.

(Place and Date.) ——— ———.

EXHIBIT A.

——— *of* ———, *County of* ———, *ss.*

———, being first duly sworn, deposes and says, that he is a citizen of the United States, born in the State of ———, and is now residing in ———; that he is the contestant and protestant named in, and who subscribed the notice and protest hereto annexed. Affiant further says that he is the owner by purchase and in the possession of the (adverse) lode or vein of quartz and other rock in place, bearing ——— and other metals. That the said lode is situated in the ——— mining district, ——— county, ——— of ———.

[*The history of the lode should be given in full; for instance, as follows:*]

This affiant further says, that on the day of location the premises hereinafter described were mineral lands of the public domain, and entirely vacant and unoccupied, and were not owned, held, or claimed by any person or persons as mining ground or otherwise, and that while the same were so vacant and unoccupied, and unclaimed, to wit:

On the ——— ——— day of ——— ———, 18—, (name locators,) each and all of them being citizens of the United States, entered upon and explored the premises, discovered and located the said ——— ——— lode, and occupied the same as mining claims. That the said premises so located and appropriated consist of ——— ——— feet in a ———erly direction, and ——— ——— ——— feet in a ———erly direction, as will fully appear by reference to the notice of location, a duly certified copy whereof is hereunto annexed, marked Exhibit B, and hereby made a part of this affidavit. That he locators, after the discovery of the said ——— lode, drove a stake on said lode on he discovery claim, erected a monument of stone around said stake, and placed thereon a written notice of location describing the claim so located and appropriated, giving the names of the locators and quantity taken by each, and after doing all the acts and performing all the labor required by the laws and regulations of said ——— mining district and territory of ———, the locators of said lode caused said notice to be filed and recorded in the proper books of record in the Recorder's office in said district on the ——— day of ———, 18—.

Affiant further says, that the said locators remained continuously in possession of said lode, working upon the same, and within ——— months from the date of said location had done and performed work and labor on said location in mining thereon and developing the same, more than ——— days work, and expended on said location more than ———hundred dollars, and by said labor and money expended upon the said mining location and claim, had developed the same and extracted therefrom more than ——— tons of ore.

And affiant further says, that said locators, in all respects, complied with every custom, rule, regulation, and requirement of the mining laws, and every rule and custom established and in force in said ——— mining district, and thereby became and were owners (except as against the paramount title of the United States) and the rightful possessors of said mining claims and premises.

And this affiant further says, that said locators proved and established to the satisfaction of the Recorder of said ——— mining district that they had fully complied with all the rules, customs, regulations, and requirements of the laws of said district, and thereupon the said Recorder issued to the locators of said ——— lode, certificates confirming their titles and rights to said premises.

That the said lode was located and worked by the said locators as tenants in common, and they so continued in the rightful and undisputed possession thereof from the time of said location until on or about the ——— day of ———, A. D. 18—, at which time the said locators and owners of said lode formed and organized under the laws of the State (or Territory) of ———, and incorporated under the name of the "———," and on the ——— day of ———, A. D. 18—, each of the locators of said lode conveyed said lode and each of their rights, titles, and interest in and to said lode, to said "——— mining company."

On the said ——— day of ———, 18—, the said company entered into and upon said ——— lode, and was seized and possessed thereof and every part and parcel of the same, and occupied and mined thereon until the ——— day of ———, 18—, at which time the said ——— mining company sold and conveyed the same to this affiant, which said several transfers and conveyances will fully appear, by reference to the abstract of title and paper hereto attached, marked Exhibit D, and made a part of this affidavit.

[*In case of individual transfers.*]

And this affiant further says, that the said ———, who located claim ——— north westerly of the said ——— lode, and the said ———, who located claim ——— north-westerly thereon, was seized and in possession of said claims, and occupied and mined thereon until the ——— day of ———, 18—, at which time the said ——— and ——— sold and conveyed the same to ———, and thereupon the said ——— was seized and possessed of said mining claims and locations, and occupied and mined thereon until the ——— day of ———, 18—, at which time the said ——— sold and conveyed the same to this affiant, as will fully appear by reference to the abstract of title and paper hereto attached, marked Exhibit D, and which this affiant hereby makes a part of thi his affidavit.

Affiant further says, that he is now and has been in the occupation and possession of the said ——— lode since the ——— day of ———, 18—, and that said lode and mining claims were located, and the title thereto established, several ——— before said (applied for) ——— lode was located.

Affiant further says, that said ——— lode, as shown by the notice and diagram posted on said claim, and the copy thereof filed in the United States Land Office at said ——— with said application for a patent, crosses and overlaps said ——— lode, and embraces about ——— hundred feet in length by ——— hundred feet in width of the said ——— lode, the property of this affiant, as fully appears by reference to the diagram or map duly certified by ———, United States Deputy Surveyor, hereto attached, marked Exhibit C, and which diagram presents a correct description of the relative locations of the said (adverse) lode, and of the pretended (applied for) lode.

Affiant further says, that he is informed and believes that said applicant for patent well knew that affiant was the owner in possession and entitled to the possession of so much of said mining ground embraced within the survey and diagram of said applications, as is hereinbefore stated, and that this affiant is entitled to all the ———and other metal in said (adverse) lode, and all that may be contained within a space of ——— feet on each side of said (adverse) lode.

And affiant further says, that this protest is made in entire good faith, and with the sole object of protecting the legal rights and property of this affiant in the said (adverse) lode and mining premises.

——— ———

Subscribed and sworn to before me this ——— day of ———, A. D. 188—.

——— ———

SURVEYOR'S CERTIFICATE.

On the diagram marked Exhibit C, the Surveyor must certify in effect, as follows:

I hereby certify that the above diagram correctly represents the conflict claimed to exist between the ——— and ——— lodes, as actually surveyed by me. And I further certify, that the value of the labor and improvements on the (adverse) lode, exceeds five hundred dollars, and said improvements consist of (state in full).

(Place and Date.)

——— ———, *U. S. Deputy Surveyor.*

FORM 22.*

Tunnel Claim—Location Certificate.

Know all men by these presents, that the undersigned, citizens of the United States, have this ——— day of ———, 188–, claimed by right of location, a tunnel claim, for the purpose of discovering and working veins, lodes or deposits on the line thereof [cutting the ——— lode, and working the ——— lode]. Said tunnel claim is situated in the ——— mining district, county of ———, State of ———, and the location and bounds of said tunnel are staked on the surface at the place of commencement and termination thereof, as well as along the line thereof. Said claim is more particularly described as follows: [*Describe the commencement and termination by reference to natural objects and permanent monuments, and the line by courses and distances.*]

Dated ———, 188–. ——— ———,

Locator.

FORM 23.

Power of Attorney to Locate and Sell.

Know all men by these presents, that we, the undersigned [*names*], ———, citizens of the United States, have made, constituted and appointed A. B. [*some third person, who will locate and stake*], our true and lawful attorney for us, and in our names to locate, stake and record for us each lode claims and placer mining ground in the ———, ——— county, ——— of ———, and having located the same, to bargain, sell, grant, release and convey the same, entire or in separate parcels, to make proper deeds, seal, acknowledge and deliver the same to such persons as our attorney may desire; hereby ratifying and confirming all lawful acts done by our said attorney by virtue hereof.

Witness our hands and seals, this ——— day of ———, 18—.

[*Names.*]

——— *of* ———, *County of* ———, *ss.*

On this ——— day of ———, 18—, before me — — in and for the county and State aforesaid, appeared ——— personally known to me as the persons whose names are subscribed to the foregoing power of attorney, and acknowledged the execution thereof as their free act and deed, for the purposes therein mentioned.

Given under my hand and ——— seal the day and year above written.

——— ———.

FORM 24.

Notice of Right to Water.

The undersigned claims the water running in this ——— stream to the extent of ——— inches for mining purposes, to be conveyed by (ditch or flume) from this point to the ——— placer claim.

Dated ———, 18—. ——— ———,

Locator.

NOTE—This notice is to be posted near the outlet, and the following form is to be duly recorded the district or county Recorder's office.

* Forms 22, 23, 24, 25, 26, 27, and 28, are from Carpenter's Mining Code, slightly modified.

FORM 25.

Pre-emption of Right of Way for Ditch and Location of Water.

To whom these presents may concern, know ye, that I, ———, of the county of ———, in the State of ———, a citizen of the United States, do hereby declare and publish as a legal notice to all the world, that I claim, and have a valid right to the occupation, possession and enjoyment of all and singular, that tract or parcel of land lying and being in the county of ———, in the State of ———, for the exclusive right of way for the purpose of constructing a flume or water ditch from ——— stream to ——— placer claim, more particularly described as follows: Commencing [*here describe the exact route for ditch or flume.*]

I also claim, and have a valid right to the enjoyment and use of ——— inches of water from said stream for mining purposes, to be conveyed through such flume or water ditch to said claim, together with all and singular, the hereditaments and appurtenances thereunto belonging, or in any wise appertaining.

Witness my hand and seal this ——— day of ———, A. D. 18—.

——— ———.

[*Name.*]

Notice posted on the stream ———, 18—.

Ditch commenced at claim or at stream ———, 18—.

——— *of* ———, *County of* ———, *ss.*

On this ——— day of ———, 18—, before me, a ——— in and for the county aforesaid, in the State aforesaid, personally appeared ———, to me personally known to be the person who executed the foregoing written instrument, and acknowledged that he executed the same for the uses and purposes therein set forth.

Witness my hand and official seal. ——— ———.

FORM 26.

Mining Deed.

THIS INDENTURE, made the ——— day of ———, in the year of our Lord one thousand eight hundred and eighty, between ——— ———, of the county of ———, and ——— of ———, party of the first, and ——— ———, of the county of ———, and ——— of ———, party of the second part;

Witnesseth, That the said party of the first part, for and in consideration of the sum of ——— dollars, lawful money of the United States of America, to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, hath granted, bargained, sold, remised, released, and forever quit-claimed, and by these presents does grant, bargain, sell, remise, release, and forever quit-claim, unto the said party of the second part, his heirs and assigns, the ——— lode, as located, surveyed, recorded, and held by said party of the first part, situated in ——— mining district, ——— county, ———, together with all the dips, spurs, and angles, and also all the metals, ores, gold and silver-bearing quartz, rock and earth therein, and all the rights, privileges, and franchises thereto incident, appendant and appurtenant, or therewith usually had and enjoyed; and also, all and singular the tenements, hereditaments, and appurtenances thereunto belonging, or in any wise appertaining, and the rents, issues, and profits thereof; and also, all the estate, right, title, interest, property, possession, claim and demand whatsoever, as well in law as in equity, of the said party of the first part, of, in or to the said premises, and every part and parcel thereof, with the appurtenances.

To have and to hold, all and singular, the said premises, together with the appurtenances and privileges thereto incident, unto the said party of the second part, his heirs

and assigns forever. In witness whereof, the said party of the first part has hereunto set his hand and seal the day and year first above written.

[SEAL.] ——— ———.

——— *of* ———, ———*County, ss.*

I, Richard Roe, a Notary Public in and for said county, in the State aforesaid, do hereby certify that ——— ———, personally known to me to be the person whose name is subscribed to the annexed deed, appeared before me this day in person, and acknowledged that he signed, sealed and delivered the said instrument of writing as his free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and official seal, this ——— day of ———, A. D. 188–.

[SEAL.] RICHARD ROE, *Notary Public.*

FORM 27.

Title Bond to Mining Property.

Know all men by these presents, that I, John W. Newton, party of the first part, of the county of Lake, and State of Colorado, am held and firmly bound unto William H. Hunt, party of the second part, of the county of Lake, and State of Colorado, in the penal sum of ten thousand dollars, lawful money of the United States, to the payment of which the party of the first part hereby binds himself, his heirs, executors, and administrators. Witness his hand and seal this 20th day of July, 1880. The conditions of the foregoing obligations are such, that whereas, the above bounden party of the first part, in consideration of the sum of five dollars, in hand paid, has, on the day and year aforesaid, agreed to sell to the party of the second part the following described mining property, viz: An undivided one-eighth interest in and to the Gilt Edge lode claim, as located, surveyed, recorded, and held, situate, lying and being in California Mining District, Lake county, Colorado, together with all and singular, the improvements, here itaments, and appurtenances thereto belonging, or in any wise appertaining, for the sum of five thousand dollars, to be paid at the times and in the manner following, viz: One thousand dollars on or before August 20, 1880; one thousand dollars on or before September 20, 1880; and three thousand dollars on or before October 20, 1880; which sums of money are to be paid to the party of the first part, in person, or by depositing the same to his credit at the Vermont National Bank of St. Albans, at the times aforesaid, and time shall be of the essence of these conditions. And in case of failure of the party of the second part, or his assigns, to make either of said payments at the times mentioned, such sum or sums as may have been paid hereunder, shall be forfeited to and retained by the party of the first part, as a penalty and for liquidated damages, and notice of forfeiture is hereby expressly waived, and also all right, demand or claim for the balance or any of said sum of five thousand dollars, is hereby expressly waived by the party of the first part. The party of the first part, his heirs, executors, administrators, and assigns, shall on the 20th day of October, 1880, or at any time before, upon payment of said sums of money hereinbefore mentioned, make, execute, and deliver to the party of the second part, or to such person or persons as he shall designate, good and sufficient deed or deeds of all of the above described property, conveying a clear and perfect title (except the fee simple title of the United States), free from all incumbrances, with a covenant, that the annual expenditure has been made thereon as required by law. Now, if the party of the second part shall fail to pay the sum or sums of money as hereinbefore provided, and if the party of the first part shall faithfully perform the covenants herein set forth, then this obligation shall be null and void; otherwise, to be and remain in full force and effect.

[SEAL.] JOHN W. NEWTON.

State of Colorado, Lake county, ss.

Be it known, That on this 20th day of July, 1880, before me, personally came John

W. Newton, to me known as the person described in, and who executed the foregoing instrument in writing, and acknowledged the execution thereof to be his free act an deed, for the uses and purposes therein mentioned.

Witness my hand and official seal.

[SEAL.] ALEX. G. WATSON, *Notary Public.*

FORM 28.

Escrow Agreement.

The inclosed deed of the ——— lode is hereby placed in the ——— Bank of ———, *in escrow.* If A. B. shall place, or cause to be placed to the credit of C. D. and E. F., in said ——— bank of ———, on or before ———, 188–, the full sum of ——— dollars, then and in that case the said bank is hereby authorized to deliver the inclosed deed to A. B., or his order. In case the said A. B. shall not place, or cause to be placed, to the credit of said C. D. and E. F., in said bank, the full sum of ——— dollars, on or before ———, 188–, then the said bank is hereby authorized to deliver the inclosed deed to the said C. D. and E. F., or their joint order.

(Signed) C. D.
E. F.
A. B.

———— ———— ————, 188–, (Place and date).

NOTE.—When the option for the purchase of a mine is desired by a third party, it is the safest and best plan for the mine owner to put a deed *in escrow.* It saves incumbering of the record, and any questions that might arise concerning the payment of money. The deed should be a warranty, quit-claim, or mining deed, as agreed, fully executed and acknowledged, ready for delivery, put in a sealed envelope, and placed in some bank, or left with some responsible person, with an agreement written pon the envelope, as above.

FORM 29.

Mining Lease.*

THIS INDENTURE, made this ——— day of ———, in the year of our Lord on thousand eight hundred and eighty ——, between ——— lessor and ——— lessee or tenant; *Witnesseth,* That the said lessor for and in consideration of the rents, royalties, covenants and agreements hereinafter reserved, and by the said lessee to be paid, kept and performed, ——— granted, demised and let, and by these presents do grant, demise and let unto the said lessee, all the following described mine and mining property, situated in ——— mining district, county of ———, ——— of ———, to wit: (Here description of property.) Together with the appurtenances ——— to have and to hold unto the said lessee or tenant for the term of ——— from the date hereof, expiring at noon on the ——— day of ———, A. D. 188–, unless sooner forfeited or determined through the violation of any covenant hereinafter against the said tenant ——— reserved.

And in consideration of the said demise, the said lessee does covenant and agree with said lessor as follows, to wit:

To enter upon said mine or premises and work the same mine fashion, in manner necessary to good and economical mining, so as to take out the greatest amount of ore possible, with due regard to the safety, development and preservation of the said premises as a workable mine.

(Here insert special covenants for dead work, etc.)

* From Morrison's Mining Rights in Colorado.

NOTE.—The covenants of a mining lease are peculiar, and cannot be too particularly stated in the nstrument. If for more than one year, it should be in writing, and recorded.

Instead of a lease a license may be granted. The distinctions between a lease and a license are echnical, but important.

A license, usually, is not exclusive, and invests no property in the mineral until severed. Work done for lessees cannot subject the ground to a miner's lien.

To work and mine said premises as aforesaid steadily and continuously from the date of this lease: and that any failure to work said premises with at least ——— persons employed underground for the space of ——— consecutive days may be considered a violation of this covenant.

To well and sufficiently timber said mine at all points where proper, in accordance with good mining; and to repair all old timbering wherever it may become necessary.

To allow said lessor and ——— agents to enter upon and into all parts of said mine for the purpose of inspection, with use of all passages, ropes, windlass, ladder-ways, and all other means of ingress and egress for such purpose.

To not assign this lease, or any interest thereunder, and to not sublet the said premises or any part thereof, without the written assent of said lessor, and to not allow any person or persons except the said lessee and ——— workmen to take or hold possession of said premises or any part thereof under any pretence whatever.

To occupy and hold all cross or parallel lodes, dips, spurs, feeders, crevices or mineral deposits of any kind, which may be discovered in working under this lease, or in any tunnel run to intersect said ——— lode, or by the said lessee or any person or persons under ———, in any manner at any point within ——— feet of the centre line of said lode, as the property of said lessor; with privilege to said lessee of working the same as an appurtenance of said demised premises, during the term of this lease; and to not locate or record the same, or allow the same to be located or recorded, except in the name of said lessor.

To keep at all times the drifts, shafts, tunnels, and other passages and workings of said demised premises, thoroughly drained and clear of loose rock and rubbish of all inds.

To pay and deliver to said lessor as royalty, ——— of all ore to be extracted from aid premises during said term, of like assay to that retained by said lessee, delivered at ——— as soon as mined, without offset, deduction, or charge whatever, except lessor's proportion for packing.

To deliver up to said lessor the said premises, with the appurtenances and all improvements ——— in good order and condition, with all shafts and tunnels and other passages thoroughly clear of rubbish and drained, and the mine in all points ready for immediate continued working (accidents not arising from negligence alone excusing), without demand or further notice, on said ——— day of ———, A. D. 188–, at noon or at any time previous, upon demand for forfeiture.

And finally, upon the violation by said lessee, or any person under ———, of any covenant or covenants hereinbefore reserved, the term of this lease shall, at the option of said lessor, expire, and the same and said premises with the appurtenances shall become forfeit to said lessor: and said lessor or ——— agent may thereupon, after demand of possession in writing, enter upon said premises and dispossess all persons occupying the same, with or without force, and with or without process of law; or at the option of said lessor, the said tenant and all persons found in occupation may be proceeded against as trespassers from the beginning of said term both as to realty and the ore served therefrom; or as guilty of unlawful detainer.

Each and every clause and covenant of this Indenture shall extend to the heirs, executors, and administrators of all parties hereto: and to the assigns of said lessor: and as said lessor may elect, to the assigns of said lessee.

In witness whereof, The said parties, lessor and lessee, have hereunto set their hands and seals.

——— ———. ——— ———. [SEAL.]

——— ———. ——— ———. [SEAL.]

STATE AND TERRITORIAL MINING LAWS.

ARIZONA.

TITLE XLVI—MINES.

Chapter One—Location, Registry and Working.

2349 (SECTION 1). **Mining Districts.**—The mining districts heretofore or hereafter created in the several counties of this territory are hereby authorized and empowered to make all necessary rules and regulations for the location, registry, and working of mines therein: *Provided*, That all locations and registrations of mines and mineral deposits hereafter made in any of the said districts shall be filed with the county recorder for record, within sixty days after the same shall have been located.

2350 (SEC. 2). **County Recorders—Fees.**—The county recorders of the several counties are authorized and required to procure suitable books in which the records of all mines and mineral deposits shall be kept, which said books shall be paid for out of the county treasury.

2351 (SEC. 3). **Prior Locations.**—Nothing in this act shall be so construed as to affect the claims to mines and ineral deposits heretofore located and duly recorded.

Chapter Two—Drainage.

2352 (SEC. 4). **Common Drainage.**—Whenever adjacent or contiguous mines, occupied and worked upon the same or upon separate lodes, have a common ingress of water or by reason of subterranean communication of water have a common drainage, it shall be the duty of the owners, lessees or occupants of said mine so related, to provide for their proportionate share of such drainage or to prevent the water in such mine from flowing in or upon neighboring mines, thereby imposing upon them an unjust burden

2353 (SEC. 5). **Failure or Neglect.**—If any owners, lessees or occupants of any such mine shall fail or neglect to provide for the drainage thereof and by reason of such failure or neglect the owners, lessees or occupants of any adjacent or contiguous mine are compelled to pump or drain or otherwise provide for the water flowing in from such first-mentioned mine, then and in such event the owners, lessees or occupants of the mine so in default shall pay respectively to those performing the work of drainage their proportion of the actual and necessary cost and expense of pumping, draining or otherwise provid-

ing for said water, and if they fail or refuse to make such payment the same may be recovered by an action in any court of competent jurisdiction.

2354 (SEC. 6.) **Corporation.**—It shall be lawful for all mining corporations or companies and all individuals engaged in mining having thus a common interest in draining such mines, to unite for the purpose of effecting the same under such common name and upon such terms and conditions as may be agreed upon; and every such association having filed a certificate of incorporation, as provided by law, shall be deemed a corporation, with all the rights, incidents and liabilities of a body corporate so far as the same may be applicable.

2355 (SEC. 7). **Failure to Agree.**—Failing mutually to agree as indicated in the preceding section for drainage jointly, one or more of said parties may undertake the work of drainage after giving reasonable notice to the other parties interested as aforesaid, and should the remaining parties then fail, neglect or refuse to unite in equitable arrangements for doing or sharing the expense thereof, they shall be subject to an action therefor, as already specified, to be enforced in any court of competent jurisdiction.

2356 (SEC. 8). **Inspection and Examination.**—When an action is commenced as provided herein, to recover the costs and expenses for draining a lode or mine, it shall be lawful for the plaintiff to apply to the court or to the judge thereof, in vacation, for an order to inspect and examine the lodes and mines claimed to have been drained by the plaintiff, and upon affidavit that such inspection or examination is necessary for a proper preparation of the case for trial, the court or judge shall grant an order for the underground inspection and examination of the lode or mine described in the petition. Such order shall designate the number of persons, not exceeding three besides the plaintiff or his representative, who may examine and inspect such lode and mines and take measurements for the purpose of showing the amount of water taken from the lode or mine, or the number of fathoms of ground mined and worked out of the lodes or mines claimed to have been drained, the cost of such examination and inspection to be borne by the party applying therefor. The court or judge shall have power to cause the removal of any rock, debris or other obstacles in any lode or vein when such removal is shown to be necessary to a just determination of the question involved; *Provided*, That no such order for inspection and examination shall be made except upon notice of at least three days, nor unless it appears that the plaintiff has been refused the privilege of making the examination by the defendant, his or their agent.

2357. (SEC. 9). **Undeveloped Mines.**—The provisions of this act shall not apply to unopened or undeveloped mines, but shall apply to all opened and developed mines which derive a benefit from being drained. [Took effect immediately.]

Approved March 10, 1887.—Revised Statutes, 1887, p. 412.

Title LXIII. Water and Water Rights.

Chapter One—Riparian Rights.

3198. (Sec. 1). **Riparian Rights.**—The common law doctrine of riparian water rights, shall not obtain or be of any force or effect in this territory.

(Took effect immediately.)

Chapter Two—Irrigating Canals and Acequias.

3199. (Sec. 1). **Public Streams.**—All rivers, creeks, and streams of running water in the territory of Arizona are hereby declared public, and applicable to the purposes of irrigation and mining, as hereinafter provided.

3200. (Sec. 2.) **Established Acequias.**—All rights in acequias, or irrigating canals, heretofore established shall not be disturbed, nor shall the course of such acequias be changed without the consent of the proprietors of such established rights.

3201. (Sec. 3.) **Construction of Acequias.**—All the inhabitants of this territory, who own or possess arable and irrigable lands, shall have the right to construct public or private acequias, and obtain the necessary water for the same from any convenient river, creek or stream of running water.

3202. (Sec. 4.) **Private Lands.**—Whenever such public or private acequias shall necessarialy run through the lands of any private individual not benefited by said acequias, the damage resulting to such private individuals, on the application of the party interested, shall be assessed by the probate judge of the proper county in a summary manner.

3203. (Sec. 5.) **Obstructions.**—No inhabitant of this territory shall have the right to erect any dam, or build a mill, or place any machinery, or open any sluice, or make any dike, except such as are used for mining purposes or the reduction of metals, as provided for in sections six and seven of this chapter, that may impede or obstruct the irrigation of any lands or fields, as the right to irrigate the fields and arable lands shall be preferable to all others; and the justices of the peace of the respective precincts shall hear and determine the question relative to all such obstructions in a summary manner, and cause the removal of the same by order directed to the constable of the precinct or sheriff of the county, who shall proceed to execute the same without delay.

3204. (Sec. 6.) **Mining Apparatus.**—Where reduction works or other mining apparatus shall be placed upon lands previously held for agricultural purposes, the person or persons so holding such lands shall be entitled to remuneration from the person or persons erecting or owning said reduction works or mining apparatus. The amount of remuneration shall be adjudged by three or five disinterested persons or by the probate judge, as the parties interested shall agree, and in case such agreement cannot be made, then the party injured may bring suit for damages.

3205. (Sec. 7.) **Water Right.**—When any ditch or acequia shall

be taken out for agricultural purposes, the person or persons so taking out such ditch or acequia shall have the exclusive right to the water, or so much thereof as shall be necessary for said purposes, and if at any time the water so required shall be taken for mining operations, the person or persons owning said water shall be entitled to damages, to be assessed in the manner provided in section six of this chapter.

3206 (SEC. 8). **Field Paths.**—All by-paths or foot-paths across any cultivated fields are prohibited, under penalty of a fine not to exceed ten dollars, for the benefit of the public acequia, to be assessed in a summary manner by the justice of the peace of the precinct; and if the person so offending shall not have wherewith to pay the fine, he shall be adjudged and sentenced to work ten days on the public acequia.

3207 (SEC. 9). **Labor.**—All owners and proprietors of arable and irrigable land bordering on, or irrigable by, any public acequia, shall labor on such public acequia, whether such owners or proprietors cultivate the land or not.

3208 (SEC 10). **Proportionate Labor.**—All persons interested in a public acequia, whether owners or lessees of land, shall labor thereon in proportion to the amount of land owned or held by them, and which may be irrigated or subject to irrigation.

3209 (SEC. 11). **Damage by Animals.**—It being impracticable to properly inclose the fields in this territory, all animals shall be kept under a shepherd, so that no injury may result to the fields; and if any damage should result, it shall be paid by the owners of the animals causing the same, to be assessed by the justice of the peace of the precinct in a summary manner, and paid to the person or persons whose fields may have been damaged.

3210 (SEC. 12). **Damages.**—In case a community or people desire to construct an acequia in any part of this territory, and the persons desiring to construct the same are the owners or proprietors of the land upon which they design constructing the said acequia, no one shall be bound to pay damages for such lands, as all persons interested in the construction of said acequia are to be benefited thereby.

3211 (SEC. 13). **Overseers.**—Immediately after the publication of this chapter, it shall be the duty of the several justices of the peace in this territory to call together, in their respective precincts, all the owners and proprietors of land, irrigated by any public acequia, for the purpose of electing one or more overseers for said acequia for the corresponding year.

3212 (SEC. 14). **Elections.**—The manner of conducting such elections, and the number of overseers, shall be regulated by the justices of the peace of their respective precincts; and the only persons entitled to vote at said elections shall be the owners and proprietors of lands irrigated by said acequias.

3213 (SEC. 15). **Overseers' Pay.**—The pay and perquisites of said overseers shall be determined by a majority of the owners and proprietors of the lands irrigated by said acequias, and paid by them.

3214 (SEC. 16). **Overseers' Duty.**—It shall be the duty of the overseers to superintend the opening, excavation and repairs of said acequias; to apportion the number of laborers furnished by the

owners and proprietors; to regulate them according to the quantity of land to be irrigated by each one from said acequia; to distribute and apportion the water in proportion to the quantity to which each one is entitled, according to the land cultivated by him; and, in making such apportionment, he shall take into consideration the nature of the seed sown, or planted, the crops and plants cultivated; and to conduct and carry on such distribution with justice and impartiality.

3215 (SEC. 17). **Scarcity of Water.**—During years when a scarcity of water shall exist, owners of fields shall have precedence of the water for irrigation, according to the dates of their respective titles or their occupation of the lands, either by themselves or their grantors. The oldest title shall have the precedence always.

3216 (SEC. 18). **Laborers.**—It shall be the duty of each of the owners and proprietors to furnish the number of laborers required by the overseer, at the time and place he may designate, for the purposes mentioned in the foregoing section, and for the time he may deem necessary.

3217 (SEC 19). **Overseers' Neglect.**—If any overseer of any public acequia, after having undertaken to serve as such, shall wilfully neglect or refuse to fulfill the duties required of him by this chapter, or conduct himself with impropriety or injustice in this office as overseer; or take any bribe in money, property or otherwise, as an inducement to act improperly; or neglect the duties of his office, he shall be fined for each of said offenses in a sum not exceeding one hundred dollars nor less than fifty dollars, to be recovered before any justice of the peace of the county—one half of which shall be paid to the county and the other half to the person bringing suit for the same—the said suit to be brought in the name of the Territory of Arizona, and said overseer, on being convicted a second time, shall be removed from his office by the justice of the peace of the precinct; and shall take such pay and perquisites as may be due him for services rendered.

3218 (SEC. 20). **Removal of Overseer.**—Upon such removal, the justice of the peace shall order a new election to fill the vacancy thereby occasioned, which shall be conducted in the manner prescribed in the thirteenth and fourteenth sections of this chapter.

3219 (SEC. 21). **Fines.**—If any owner or proprietor of land irrigated by such acequia shall neglect or refuse to furnish the number of laborers required by the overseer, as required in the 18th section of this chapter, after having been duly notified by the overseer, he shall be fined for each offense, in a sum not exceeding ten dollars, for the benefit of said acequia, which shall be recovered by the overseer before any justice of the peace in the county; and, in such cases, the overseer shall be a competent witness to prove the offense or any fact that may serve to constitute the same.

3220 (SEC. 22). **Obstruction or Improper Use of Water.**—If any person shall in any manner interfere with, impede or obstruct any of said acequias, or use the water from it without the consent of the overseer, except as provided in section seven of this chapter, during the time of cultivation, he shall pay for each offense a sum not exceeding ten dollars, which shall be recoverable in the manner prescribed in the foregoing section for the benefit of said acequia; and

he shall further pay all damages that may have occurred to the injured parties; and if such person has not wherewith to pay said fine and damages, he shall be sentenced to fifteen days' labor on said public acequia.

3221 (SEC. 23). **Fines and Forfeitures.**—All fines and forfeitures, recovered for the use and benefit of any public acequia, shall be applied by the overseers to the improvements, excavations and repairs, which may be necessary on said acequia, and for the construction of bridges where they may be crossed by any public street or road.

3222 (SEC. 24). **Appeal.**—In all cases of conviction under this chapter, an appeal shall be allowed to the probate court, which appeal shall be taken and conducted as all other appeals from the decisions of the justices of the peace.

3223 (SEC. 25). **When Law Enforced.**—The regulations of acequias, which have been worked according to the laws and customs of Sonora and the usages of the people of Arizona, shall remain as they were made and used up to this day, and the provisions of this chapter shall be enforced and observed from the day of its publication.

3224 (SEC. 26). **Plants and Trees.**—All plants and trees of any description growing on the banks of any acequia shall belong to the owners of the land through which said acequia may run.

3225 (SEC. 27). **Spring or Running Stream.**—Any person owning lands which may include a spring or stream of running water, or owning lands upon a river where there is not population sufficient to form a public acequia, may construct a private acequia for his own uses, subject to his own regulations, provided it does not interfere with the rights of others.

3226 (SEC. 28). **Repeal.**—All laws conflicting with the provisions of this chapter are hereby repealed.

Approved, March 10, 1887.

(NOTE.—The foregoing chapter is compiled and taken from the Compiled Laws, Chapter LV., p. 538. There was no legislation upon the subject by the fourteenth legislature (1887), and this chapter remains unchanged.)

An Act Relating to Mines and Mining Claims.

Be it enacted, etc.

SECTION 1. Any person or persons, who has or may hereafter locate a valid mining claim in this Territory under the laws of the United States, or of the Territory of Arizona, shall be lawfully entitled to the right of way over all adjoining or adjacent mines or mining claims for the purpose of transporting supplies, material or ores, used upon or taken from the claim or claims so entitled to the right of way; and it shall be lawful in the exercise of this right of way to construct such a road, tramway or railway, as may be necessary to transport such supplies, materials or ores; *provided*, that no such right of way shall be exercised in such a manner as to inconvenience or embarrass the owner or owners of such adjoining or adjacent claim or claims; and *provided*, also, that the owner or owners of said adjoining or adjacent claim or claims shall be entitled to remuneration from the person or persons claiming such right of way; the amount of such remuneration, and the manner of

ascertaining the same, to be regulated by the rules and regulations as prescribed by an act of the Territorial Legislature, entitled "an act providing for constructing and maintaining toll roads, bridges and ferries in Arizona Territory." Approved February 18, 1871.

SEC. 2. All acts, and parts of acts, in conflict with the provisions of this act, are hereby repealed.

SEC. 3.—This act shall take effect and be in force from and after its passage.

Approved March 12, 1881.

[Laws of 1881, p. 167.]

An Act to Protect Landmarks.

Be it enacted, etc.

SECTION 1. That if any person or persons shall wilfully and maliciously deface, remove, pull down, injure or destroy any location stake, side post, corner post, landmark or monument, or any other legal land boundary monument in this Territory, designating or intending to designate the location, boundary or name of any mining claim, lode or vein of mineral, or the name of the discoverer, or date of discovery thereof, the person or persons so offending shall be guilty of a misdemeanor, and on conviction thereof, shall be fined not more than one thousand dollars or imprisoned not more than one year, at the discretion of the court; *provided*, that this act shall not apply to abandoned property.

SEC. 2. This act shall take effect and be in force from and after its passage.

Approved February 21st, 1883.

[Laws of 1883, p. 31.]

An Act to Encourage Mining.

Be it enacted, etc.

SECTION 1. That no lands taken up or held as mining claims under the laws of the United States shall be held or used for agricultural purposes, or irrigated from any stream of water, unless there should be more water in such stream than is required or used for mining purposes; and the use of water for the purpose of irrigating such land for agricultural purposes shall not vest in the person so using the same any right to such water, as against a subsequent appropriation for mining purposes.

SEC. 2. This act shall take effect and be in force from and after its passage.

Approved March 12, 1881.

[Laws of 1881, p. 162.]

An Act Relating to Co-Owners in Mines and Mining Claims.

SECTION 1. **Notice.**—Whenever a co owner or co owners shall give to a delinquent co-owner or co-owners the notice in writing or notice by publication provided for in Section 2324 of the Revised Statutes of the United States, an affidavit of the person giving such notice, stating the time, place, manner of service, and by whom and upon

whom such service was made, shall be attached to a true copy of such notice, and such notice and affidavit must be recorded in the office of the county recorder of the county in which the mining claim is situate; within ninety (90) days after the giving of such notice, or, if such notice is given by publication in a newspaper, there shall be attached to a printed copy of such notice an affidavit of the editor, publisher or foreman of such paper, an affidavit stating the date of the first, last, and each insertion of such notice therein, and when and where the newspaper was published during that time, and the name of such newspaper. Such affidavit and notice shall be recorded as aforesaid within one hundred and eighty days after the first publication thereof.

SECTION 2. **Evidence.**—The original of such notice and affidavits or the records thereof shall be evidence that the delinquent mentioned in said Section 2324 has failed or refused to contribute his proportion of the expenditure required by that Section, and of the services or publication of said notice, *provided* the writing or affidavit hereinafter provided for is not of record.

SECTION 3. **Payment.**—If such delinquent shall, within the ninety days required by Section 2324 aforesaid, contribute to his co-owner or co owners his proportion of such expenditures, such co-owner or co-owners shall sign and deliver to the delinquent or delinquents a writing, stating that the delinquent or delinquents by name, has within the time required by Section 2324 of the Revised Statutes of the United States contributed his share for the year ——, upon the ——— mine, and further stating therein the district, county and Territory where the same is situate and the book and page where the location notice is recorded; such writing shall be recorded in the office of the County Recorder of said county.

SECTION 4. **Penalty.**—If such co-owner or co owners shall fail to sign and deliver such writing to the delinquent or delinquents within twenty days after such contribution, the co-owner or co owners so failing as aforesaid shall be liable to a penalty of one hundred dollars, to be recovered by any person for the use of the delinquent or delinquents in any court of competent jurisdiction. If such co-owner or co-owners fail to deliver such writing within said twenty days, then the delinquent, with two disinterested persons having personal knowledge of such contribution, may make affidavit, setting forth in what manner, the amount of, to whom and upon what mine, such contribution was made. Such affidavit, or a record thereof in the office of the County Recorder of the county in which said mine is situate, shall be *prima facie* evidence of such contribution.

SECTION 5. **Description.**—In all actions, proceedings, judgments, grants, notices, conveyances or writings, it shall be a sufficient description of a mining claim if it can be intelligently learned therefrom the name of the claim, the district, county and Territory where same is situate, and the book and page where the notice thereof is recorded.

[Usual repeal provision and took effect immediately.]

Approved March 19, 1891.—Acts of 1891, p. 140.

An Act Concerning Mines.

SECTION 1. **Contents of Location Notice.**—Every notice of location of a mining claim shall contain: *First*, the name of the claim located. *Second*, the name of the locator. *Third*, the date of location. *Fourth*, the number of feet in length of said claim and the number of feet claimed on each side of the center of the discovery shaft, lengthwise of the claim. *Fifth*, the general course of the lode, deposit or premises located. *Sixth*, the locality of the claim with reference to some natural object or permanent monument, as will identify the claim.

SEC. 2. **Void Locations.**—All mining locations hereafter located, the certificate of location of which shall not contain: *First*, the name of the lode or premises. *Second*, the name of the locator or locators. *Third*, the date of location. *Fourth*, the number of feet in length of said claim and the number of feet claimed on each side of the center of the discovery shaft, lengthwise of the claim. *Fifth*, the general course of the lode or premises as near as may be. *Sixth*, the locality of the claim with reference to some natural object or permanent monument, as will identify the claim, shall be void.

SEC. 3. **How to Locate a Claim.**—Before filing such location certificate with the County Recorder of the proper county, the discoverer shall locate his claim by: *First*, sinking a discovery shaft upon the premises so claimed, to a depth of at least ten feet from the lowest part of the rim of such shaft at the surface, and deeper if necessary, until there is shown by such work a lode deposit, or mineral in place. *Second*, by posting at the point of discovery, on the surface, a plain sign or notice substantially conforming to the location certificate. *Third*, by ma[r]king such claim or premises on the ground so that its boundaries can be readily traced.

SEC. 4. **Marking Boundaries.**—Such surface boundaries shall be marked by eight substantial posts, projecting at least three feet above the surface of the ground, or by substantial stone monuments at least three feet high, to wit: One at each corner of said claim, and one at the center of each end and side line thereof.

SEC. 5. **Equivalent Discovery Work.**—Any open cut, cross-cut, adit or tunnel which shall be made, as above provided for, as a part of the location of a mining claim, and which shall be equal in amount of work to a shaft ten feet deep and four feet wide by six feet long, and which shall cut a lode or mineral in place at the depth of ten feet deep from the surface, shall be equivalent, as a discovery work, to a shaft sunk from the surface.

SEC. 6. **Time for Discovery Work.**—The discoverer shall have ninety days from the date of discovering the lode and the posting of the notice thereon to perform said discovery work thereon.

SEC. 7. **Amendment of Certificates of Location.**—If at any time the locator of any mining claim heretofore or hereafter located, or his assigns, shall learn that his original certificate was defective, or that the requirements of the law had not been complied with before filing, or shall be desirous of changing his surface boundaries, or of taking in any additional ground which is subject to location, or in case the original certificate was made prior to the passage of this law, and

he shall be desirous of securing the benefits of this act, such locator, or his assigns, may file an amended certificate of location, subject to the provisions of this act, regarding the making of new locations.

SEC. 8. **Annual Expenditure.**—The amount of assessment, or representation, work or improvements to be done or made during each year after the completion of the location as heretofore provided, and the time for doing the same shall be as provided by the laws of the United States.

SEC. 9. **Affidavit of Annual Labor.**—Within three months after the expiration of the period of time fixed for the performance of annual labor, or the making of improvements upon any mining claim or premises, the person on whose behalf such work or improvement was made, or some person for him, knowing the facts, may make and record in the office of the County Recorder of the county wherein such claim is situate an affidavit in substance as follows:

Territory of Arizona, } ss.
——— County, }

——— ——— Being duly sworn, deposes and says that he is a citizen of the United States and more than 21 years of age, and resides at ——— in ——— County, Arizona Territory, and is personally acquainted with the mining claim and premises located and known as ——— mining claim or lode, situate in ———mining district, County of ———, Arizona Territory, the notice of location of which premises is recorded in the office of the County Recorder of said county, in book —— of records of mines, at page ——. That between the —— day of ——, A. D. 189–, and the —— day of ——, A. D. 189–, at least —— dollars' worth of work and improvements were done and performed upon said premises or lode, not including the location work of said claim. Such work and improvements were made by and at the expense of ——— owners of said premises for the purpose of complying with the law of the United States pertaining to assessments or annual work, and (here name the miners or men who worked upon the claim in doing the work) were the men employed by said owner and who labored upon said premises, and who did said work and improvements, and said work so done upon said premises is described as follows, to wit: (Here describe the work done).

(Signature) ——— ———.

Subscribed and sworn to before me this —— day of ——, A. D. 189–.

[SEAL.] ——— ———, Notary Public.

SEC. 10. **Evidence of Labor Performed.**—Such affidavit, when so recorded, shall be *prima facie* evidence of the performance of such labor or the making of such improvements, and said original affidavit, after it has been recorded, or a certified copy of record of same, shall be received as evidence accordingly by all the courts of this territory.

SEC. 11. **Relocations—How Made.**—The relocation of forfeited or abandoned lode claims shall only be made by sinking a new discovery shaft and fixing new boundaries in the same manner and to the same extent as is required in making a new location, or the relocator may sink the original discovery shaft ten feet deeper than it was at the date of commencement of such relocation, and shall erect new, or make the old, monuments the same as originally required. In either

case a new location monument shall be erected and the location certificate shall state if the whole or any part of the new location is located as abandoned property.

SEC. 12. **Take Effect.**—This act shall take effect and be in force from and after July 1, 1895.

SEC. 13. **Repeal.**—All acts and parts of acts in conflict with this act are hereby repealed.

Approved March 20, 1895.

CALIFORNIA.

Water Rights.

1410. The right to the use of running water flowing in a river or stream, or down a cañon or ravine may be acquired by appropriation.

1411. The appropriation must be for some useful or beneficial purpose, and when the appropriator or his successor in interest ceases to use it for such a purpose, the right ceases.

1412. The person entitled to the use may change the place of diversion, if others are not injured by such change, and may extend the ditch, flume, pipe, or aqueduct by which the diversion is made, to places beyond that where the first use was made.

1413. The water appropriated may be turned into the channel of another stream and mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another must not be diminished.

1414. As between appropriators, the one first in time is the first in right.

1415. A person desiring to appropriate water must post a notice, in writing, in a conspicuous place at the point of intended diversion, stating therein:

1. That he claims the water there flowing to the extent of (giving the number) inches, measured under a four-inch pressure:

2. The purposes for which he claims it, and the place of intended use;

3. The means by which he intends to divert it, and the size of the flume, ditch, pipe, or aqueduct in which he intends to divert it;

A copy of the notice must, within ten days after it is posted, be recorded in the office of the Recorder of the county in which it is posted.

1416. Within sixty days after the notice is posted, the claimant must commence the excavation or construction of the works in which he intends to divert the water, and must prosecute the work diligently and uninterruptedly to completion, unless temporarily interrupted by snow or rain.

1417. By "completion" is meant conducting the waters to the place of intended use.

1418. By a compliance with the above rules, the claimant's right to the use of the water relates back to the time the notice was posted.

1419. A failure to comply with such rules deprives the claimant of the right to the use of the water as against a subsequent claimant who complies therewith.

1420. Persons who have heretofore claimed the right to water, and who have not constructed works in which to divert it, and who have not diverted nor applied it to some useful purpose, must, after this title takes effect, and within twenty days thereafter, proceed as in this Title provided, or their right ceases. Civil Code, Annotated, Title viii., p. 402.

[The above law expresses the usual manner of securing water rights in the mining states and territories. See Copp's U. S. Mineral Lands.]

Mineral Lands on School Sections.*

An Act regulating the sale of mineral lands belonging to the State of California.

SECTION 1.—**Affidavit.**—Any person desiring to purchase from this State any portion of any sixteenth or thirty-sixth section, that shall have been designated by United States survey as of a mineral character, or which is so in fact, shall make an affidavit before some officer authorized to administer oaths, that he or she is a citizen of the United States; or, if a foreigner, that he has filed his intention to become a citizen of the United States; that he or she is of lawful age, and desires to purchase said land, giving a description thereof by legal subdivisions; that he or she has not entered any portion of such mineral lands which, together with that applied for in such affidavit, will exceed forty acres; that there is no occupation of said land adverse to that which he or she holds; or, if there be any adverse occupation thereof, then he or she must state the name of such adverse occupant, together with the fact that the plat of the township has been on file six months or over, and that such adverse occupant has been in such occupation six months or over.

SEC. 2.—**Preferred Purchaser.**—Any person that shall be in the actual possession of any of said lands described in section one, at the time of the survey thereof by the United States, or at the time of the passage of this act, shall be considered a preferred purchaser thereof to the extent of his or her mining claim: *Provided*, he or she make application for the purchase of the same on or before the first day of January 1877, if the plat of such survey be already filed in the United State and Office, and if not so filed, then within six months after the filing of such plat as aforesaid.

SEC. 3.—**Contest.**—When a contest shall arise as to the mineral character of the lands applied for, or from any other cause, the Surveyor-General, or the Register before whom the contest is made, must, within thirty days after the adverse application is filed, unless sooner referred at the request of either claimant, make an order referring such contest to the Superior Court of the county within which the land is situated, and must enter such order in the proper book of his office, and forward a copy thereof to the clerk of the court to which the reference is made. Upon the filing of a copy of such order with the clerk of the court, either party may commence an action in said court to determine the conflict, and the court shall have full and complete jurisdiction to hear and determine the same. Unless an action shall be commenced within ninety days after the copy of the order of reference shall have been filed with the clerk of the court, the party making such demand, or the adverse claimant, if the case is referred without demand, shall be deemed to have waived and surrendered his or her right to purchase, and the Surveyor-General or Register shall proceed as though his or her application had not been made.

SEC. 4—**Price.**—All lands sold under the provisions of this act shall be sold for the sum of two dollars and fifty cents per acre in United States gold coin, payable to the Treasurer of the county in which the lands are situated, within fifty days from the date of the approval by the Surveyor-General; and in case said payment is not made within said

* This law ONLY applies to sections on which minerals are discovered AFTER survey.

fifty days, the land described in the location shall revert to the State without suit, and said location shall be and become null and void. All payments made to the County Treasurer as above provided, shall be paid over and accounted for as other moneys received for State lands are required to be paid over and accounted for.

SEC. 5.—**Certificates of Purchase.**—The Surveyor-General and Register shall, in the matter of approving locations, issuing certificates of purchase or patents, or in other proceedings relating to the sale of lands of a mineral character, which proceedings are not provided for in this act, proceed in the same manner as is now provided for the sale of sixteenth and thirty-sixth sections which are not of a mineral character.

SEC. 6.—**Patents.**—All patents issued by the State to any portion of any sixteenth or thirty-sixth section shall be subject to any vested and accrued water-rights, ditches, and reservoirs used in connection therewith, acquired by priority of possession under local customs and the decisions of the courts, and the right of way for the construction of ditches and canals for mining and other purposes, over all of the sixteenth and thirty-sixth sections owned by the State, is hereby granted and confirmed.

SEC. 7.—**Restriction on Issuance of Patents.**—After the passage of this act, no patents shall be issued for any of the lands described in this act upon which, at the time of the application therefor, there was and still is any actual *bona fide* mining claim, except to the person who is the owner of such mining claim under local mining customs; and when an applicant for such lands, not owning such mining claim, shall have paid the purchase-money therefor, in whole or in part, he may present his certificate of purchase and receive in exchange therefor, from the Register, a certificate showing the whole amount paid; and the Controller, upon the surrender of such certificate, must draw his warrant in favor of the person surrendering such certificate, for the amount therein specified, on the Treasurer of State, who must pay the sum out of the funds into which the purchase money was paid: *Provided*, That the owner of such mining-claim, under such mining customs, shall apply to purchase the same within six months after the plat of the township containing such land shall have been filed in the local United States land office, on or before the first day of January, 1877: *And provided further*, That any owner of a *bona fide* mining claim who shall have entered into an agreement with the applicant for any portion of a sixteenth or thirty-sixth section upon which said mining claim is situated, for the procurement of a title for the same, shall not avail himself of the provisions of this section. The Governor of this State shall not sign any patent contrary to the provisions of this act.

Stats. 1873–4, p. 766. Approved March 28, 1874, as amended February 3, 1876.—Stats. 1875–6, p. 20; and April 6, 1880.—Stats. 1880, p. 26.

An Act to amend an Act entitled an Act regulating the sale of Mineral Lands belonging to the State, Approved March twenty-eighth, eighteen hundred and seventy-four.

The People, etc.

SECTION 1.—Section three of "an act regulating the sale of mineral lands belonging to the State, approved March twenty-eighth, eighteen hundred and seventy-four," is hereby amended so as to read as follows:

SEC. 3.—When a contest shall arise as to the mineral character of the lands applied for, or from any other cause, the Surveyor-General, or the Register before whom the contest is made, must, within thirty days after the adverse application is filed, unless sooner referred, at the request of either claimant, make an order referring such contest to the Superior Court of the county within which the land is situated, and must enter such order in the proper book of his office, and forward a copy thereof to the clerk of the court to which the reference is made. Upon the filing of a copy of such order with the clerk of the court, either party may commence an action in said court to determine the conflict, and the court shall have full and complete jurisdiction to hear and determine the same. Unless an action shall be commenced within ninety days after the copy of the order of reference shall have been filed with the clerk of the court, the party making such demand, or the adverse claimant, if the case is referred without demand, shall be deemed to have waived and surrendered his or her right to purchase, and the Surveyor-General or Register shall proceed as though his or her application had not been made.

SEC. 2.—This act shall take effect and be in force from and after its passage.

Approved April 6, 1880.

[Laws of 1880. p. 26.]

An Act entitled an Act relating to the working, right of way, easement, and drainage of mines in the State of California.

SECTION 1.—**Affidavit of Expenditure.**—Whenever any mine owner, company or corporation shall have performed the labor and made the improvements required by law for the location and ownership of mining claims or lodes, such owner, company or corporation, shall file, or cause to be filed, within thirty days after the time limited for performing such labor or making such improvements, with the County Recorder of Deeds of the county in which the mine or claim is situated, particulary describing the labor performed and improvements made, and the value thereof, which affidavit shall be *prima facie* evidence of the facts therein stated. Upon the failure of any claimant or mine owner to comply with the conditions of this Act, in the performance of labor, or making of improvements upon any claim, mine or mining ground, the claim or mine upon which such failure occurred shall be opened to re-location in the same manner as if no location of the same had ever been made. But if, previous to re-location, the original locators, their heirs, assigns, or legal representatives, resume work upon such claim, and continue the same with reasonable diligence until the required amount of labor has been performed or improve-

ments made, and the required statement of accounts and affidavit filed with the County Recorder, then the claim shall not be subject to relocation because of previous failure to file accounts. Upon the failure of any one of the several co-owners to contribute his portion of the expenditures required hereby, the co-owners who have performed the labor or made the improvements may, at the expiration of the year, give such delinquent co-owners personal notice, in writing, or by publication in the newspaper published nearest the claim, for at least once a week for ninety days; and if, at the expiration of ninety days after such notice in writing or publication, such delinquent shall fail or refuse to contribute his portion of the expenditures required by this section, his interest in the claim shall become the property of his co-owners who made the required expenditures. A copy of such notice, together with an affidavit showing personal service or publication, as the case may be, of such notice, when filed or recorded with the Recorder of Deeds of the county in which such mining claim is situated, shall be evidence of the acquisition of title of such co-owners. Where a person or company has or may run a tunnel or cut for the purpose and in good faith for the purpose of developing a lode, lodes, or claims owned by said person, or company, or corporation, the money so expended in running said tunnel shall be taken and considered as expended on said lodes or claims; *provided further*, that said lode, claim or claims shall be distinctly marked on the surface as provided by law.

SEC. 2. **Right of Way.**—All mining locations and mining claims shall be subject to a reservation of the right of way through or over any mining claims, ditches, roads, canals, cuts, tunnels, and other easements, for the purpose of working other mines; *provided*, that any damage occasioned thereby shall be assessed and paid for in the manner provided by law for land taken for public use under the right of eminent domain.

SEC. 3. **Take Effect.**—This act shall take effect immediately.

Approved March 31, 1891.

Laws of 1891, p. 219.

An Act to provide for the Conveyance of Mining Claims.

SECTION 1.—**Bill of Sale—Fraud—Possession.**—Conveyances of mining claims may be evidenced by bills of sale or instruments in writing not under seal, signed by the person from whom the estate or interest is intended to pass, in the presence of one or more attesting witnesses; and also all conveyances of mining claims heretofore made by bills of sale or instruments in writing, not under seal, shall have the same force and effect as *prima facie* evidence of sale, as if such conveyances had been made by deed under seal; *provided*, that nothing in this act shall be construed to interfere with or repeal any lawful local rules, regulations, or customs, of the mines in the several mining districts of this State; and, *provided* further, every such bill of sale or instrument in writing shall be deemed and held to be fraudulent and void as against all persons except the parties thereto, unless such bill

of sale or instrument in writing be accompanied by an immediate delivery to the purchaser of the possession of the mining claim or claims therein described, and be followed by an actual and continued change of the possession thereof, or unless such bill of sale or instrument in writing shall be acknowledged and recorded as required by law in the case of conveyances of real estate.

SEC. 2. **Gold Claims.**—This act shall apply to gold mining claims only.

SEC. 3. **Takes Effect.**—This act shall be in force and take effect from and after its passage.

Approved April 13, 1860.

Laws of 1860, p. 175.

SECTION 748 (§ 621). **Local Customs.**—In actions respecting mining claims, proof must be admitted of the customs, usages, or regulations established and in force at the bar or diggings embracing such claim; and such customs, usages, or regulations, when not in conflict with the laws of this State, must govern the decision of the action.

Code of Civil Procedure (Annotated), 1872, p. 667,

SECTION 2515. **Partnership Property.**—The mining ground owned and worked by partners in mining, whether purchased with partnership funds or not, is partnership property.

Civil Code (Annotated), 1872, p. 125.

For statutes relating to sale of deceased persons' estates, which consist in whole or in part of mines or interests in mines, see Code of Civil Procedure, 1872, Secs. 1529, 30, 31 and 32, amended in 1880, p. 94–

Mines within Patented Townsites.

SECTION 1. **Amendment.**—Section fifteen of an Act entitled an Act entitled "An Act to authorize and direct the county judges of the several counties of this State to execute certain trusts in relation to the town lands granted to the unincorporated towns in this State by the Act of Congress entitled 'An Act for the relief of the inhabitants of cities and towns upon the public lands,' approved March second, eighteen hundred and sixty seven," approved March thirtieth, eighteen hundred and sixty-eight, is hereby amended so as to read as follows:

SEC. 15. **Proceeding to Secure Title.**—If within six months after the giving of the public notice that the plat of any townsite has been filed in the Recorder's office, as provided in section twelve of this Act, there shall remain any unoccupied or vacant unclaimed lands, or lands not previously surveyed into town lots under the provisions of this Act, and any person has hitherto or shall hereafter discover gold in any portion thereof in quantities which he may deem sufficient to justify the profitable working thereof (his judgment thereon to be conclusive), and has located and held the same bona fide for mining purposes, such mining possession shall constitute him a preferred purchaser thereof, from the Judge of the Superior Court, according to the metes and bounds of his location thereof, within the meaning of this Act; and he may apply to the Judge of the Superior Court for a deed thereto, which application he shall accompany with a deposit to be held by

such judge in an amount to be estimated by him sufficient to pay the expenses of a survey and the platting thereof as herein provided for. * * *

Approved March 9, 1897.

Session Laws, 1897, page 93.

Judgments, Records and Work Done.

SECTION 1. Amendment.—Section eleven hundred and fifty-nine of an Act entitled an Act to establish a Civil Code, approved March twenty-first, eighteen hundred and seventy-two, is hereby amended to read as follows:

1159. Judgments affecting the title to or possession of real property, authenticated by the certificate of the clerk of the court in which such jugdments were rendered (and notices of location of mining claims), may be recorded without acknowledgment, certificate of acknowledgment, or further proof. The record of all notices of location of mining claims heretofore made in the proper office without acknowledgment, or certificate of acknowledgment, or other proof, shall have the same force and effect for all purposes as if the same had been duly acknowledged, or proved and certified as required by law. Affidavits showing work or posting of notices upon mining claims may also be recorded in the Recorder's office of the county where such mining claims are situated.

Approved March 9, 1897.

Session Laws, 1897, page 97.

GENERAL LAW OF 1897.

An Act prescribing the manner of locating mining claims upon the public domain of the United States, recording notices of location thereof, amending defective locations, and providing for the deposit of district records with County Recorders, and prescribing the effect to be given to recordation of notices of location and affidavits.

SECTION 1. **Location of Claims.**—The location of mining claims upon the public domain of the United States shall be made and perfected as provided in this Act.

SEC. 2. **Preliminary Notice—Monument.**—The discoverer of any vein or lode shall immediately, upon making a discovery, erect at the point of discovery a substantial monument or mound of rocks, and post thereon a preliminary notice which shall contain:

First—The name of the lode or claim;

Second—The name of the locator or locators;

Third—The date of the discovery;

Fourth—The number of linear feet claimed in length along the course of the vein each way from the point of discovery;

Fifth—The width claimed on each side of the center of the vein;

Sixth—The general course of the vein or lode, as near as may be;

Seventh—That such notice is a first or preliminary notice.

Such notice shall be recorded in the office of the County Recorder of the county in which the same is posted within twenty days after the posting thereof. Upon the erection of said monument and posting such notice, the discovered shall be allowed the period of time specified in section three of this Act to enable him to perfect his location as hereinafter provided.

SEC. 3. **Labor—Certificate of Location.**—Within sixty days from the date of the discovery of a vein or lode, the discoverer must perform fifty dollars' worth of labor in developing his discovery, and distinctly mark his location on the ground, so that its boundaries can be readily traced, and must file in the office of the County Recorder of the county in which the claim is situated, a certificate of location, which said certificate shall state:

1. The name of the lode or claim;

2. The name of the locator or locators;

3. The date of discovery and posting of the notice, provided for in section two of this Act, which shall be considered as the date of the location;

4. A description of the claim, defining the exterior boundaries as they are marked upon the ground, and such additional description by reference to some natural objects, or permanent monument, as will identify the claim;

5. A statement that such certificate is the final or completed notice of location, and that he has performed the aforesaid fifty dollars' worth of labor in development work thereon within the aforesaid sixty day period, stating generally the nature thereof. Said certificate shall be dated and signed by or on behalf of the locator or locators,

and verified by them or by some one in their behalf, and when filed for record shall be deemed and considered as *prima facie* evidence of the facts therein recited. A copy of such certificate of location, certified by the County Recorder, shall be admitted in evidence in all actions or proceedings with the same effect as the original. The performance of such labor shall be deemed a necessary act in completing such location and a part thereof, and no part thereof shall inure to the benefit of any subsequent location.

SEC. 4. **Location of Placers.**—The discoverer of placers or other forms of deposit, subject to location and appropriation, under mining laws applicable to placers, shall locate his claim in the following manner:

First—He must immediately post in a conspicuous place at the point of discovery thereon a notice or certificate of location thereof containing:

(*a*) The name of the claim;

(*b*) The name of the locator or locators;

(*c*) The date of the discovery and posting of the notice, hereinbefore provided for, which shall be considered as the date of the location;

(*d*) A description of the claim by reference to legal sub divisions of sections, if the location is made in conformity with the public surveys; otherwise, a description with reference to some natural object or permanent monument as will identify the claim, and where such claim is located by legal sub-divisions of the public surveys, such locations shall, notwithstanding that fact, be marked by the locator upon the ground, the same as other locations.

Second—Within thirty days from the date of such discovery he must record such notice or certificate of location in the office of the County Recorder of the county in which such discovery is made, and so distinctly mark his location on the ground that its boundaries can be readily traced.

Third—Within sixty days from the date of the discovery the discoverer shall perform labor upon such location or claim in developing the [ ] to an amount which shall be equivalent in the aggregate to at least ten dollars' ($10) worth of such labor for each twenty acres, or fractional part thereof, contained in such location or claim.

Fourth—A failure to perform such labor within said time shall cause all rights under such location to be forfeited, and the land covered thereby shall at once be open to location by qualified locators other than the preceding locators, but shall not in any event be open to location by such preceding locators, and any labor performed by them thereon shall not inure to the benefit of any subsequent locator thereof.

Fifth—Such locator shall, upon the performance of such labor, file with the Recorder of the county an affidavit, showing such performance, and generally the nature and kind of work so done.

SEC. 5. **Affidavit—Evidence.**—The affidavit provided for in the last section, and the aforesaid placer notice or certificate of location when filed for record, shall be deemed and considered as *prima facie* evidence of the facts therein recited. A copy of such certificate,

notice, or affidavit, certified by the County Recorder, shall be admitted in evidence in all actions or proceedings with the same effect as the original.

SEC. 6. **Void Locations.**—All locations of quartz or placer formations or deposits, hereafter made, which do not conform to the requirements of this Act, in so far as the same are respectively applicable thereto, shall be void.

SEC. 7. **District Records.**—No record of a mining claim or millsite, made after the passage of this Act, in the records of any mining district, shall be valid. All notices of location of mining claims, millsites and other notices, heretofore recorded in such district records, if such notices conform to the local rules and regulations in force in such district, are hereby declared valid. Within thirty days after the passage of this Act the district recorder, or custodian of the records of the several mining districts in this State, shall transmit to the County Recorders of the respective counties wherein the respective districts are situated, all the records of said respective districts, and thenceforward such County Recorder shall be deemed and considered the legal custodian of such records. Thereafter copies of such records, certified by the County Recorder, may be received in evidence with the same effect as the originals.

SEC. 8. **Take Effect.**—This Act shall take effect and be in force sixty days after its passage.

Approved March 27, 1897.

COLORADO.

An Act Concerning Mines.

Be it enacted by the Council and House of Representatives of Colorado Territory:

SECTION 1.—**Length.**—The length of any lode claim hereafter located may equal, but not exceed fifteen hundred feet along the vein.

SEC. 2.—**Width.**—The width of lode claims hereafter located in Gilpin, Clear Creek, Boulder, and Summit counties, shall be seventy-five feet on each side of the center of the vein or crevice; and in all other counties the width of the same shall be one hundred and fifty feet on each side of the center of the vein or crevice: *Provided*, That hereafter any county may, at any general election, determine upon a greater width, not exceeding three hundred feet on each side of the center of the vein or lode, by a majority of the legal votes cast at said election, and any county, by such vote at such election, may determine upon a less width than above specified.

SEC. 3.—**Location Certificate.**—The discoverer of a lode shall, within three months from the date of discovery, record his claim in the office of the recorder of the county in which such lode is situated, by a location certificate, which shall contain: 1st, the name of the lode; 2d, the name of the locator; 3d, the date of location; 4th, the number of feet in length claimed on each side of the center of the discovery shaft; 5th, the general course of the lode as near as may be.

SEC. 4. Any location certificate of a lode claim which shall not contain the name of the lode, the name of the locator, the date of location, the number of lineal feet claimed on each side of the discovery shaft, the general course of the lode, and such description as shall identify the claim with reasonable certainty, shall be void.

SEC. 5.—**Discovery Shaft and Staking.**—Before filing such location certificate, the discoverer shall locate his claim by first sinking a discovery shaft upon the lode, to the depth of at least ten feet from the lowest part of the rim of such shaft at the surface, or deeper, if necessary to show a well-defined crevice. *Second*, by posting at the point of discovery on the surface, a plain sign or notice containing the name of the lode, the name of the locator, and the date of discovery. *Third*, by marking the surface boundaries of the claim.

SEC. 6. Such surface boundaries shall be marked by six substantial posts, hewed or marked on the side or sides which are in toward the claim, and sunk in the ground, to wit: One at each corner and one at the center of each side line. Where it is practically impossible on account of bed-rock or precipitous ground to sink such posts, they may be placed in a pile of stones.

SEC. 7.—**Equivalent to a Discovery Shaft.**—Any open cut, cross-cut, or tunnel, which shall cut a lode at the depth of ten feet below the surface, shall hold such lode the same as if a discovery shaft were sunk thereon, or an adit of at least ten feet in along the lode, from the point where the lode may be in any manner discovered, shall be equivalent to a discovery shaft.

SEC. 8.—**Sixty Days.**—The discoverer shall have sixty days from the time of uncovering or disclosing a lode to sink a discovery shaft hereon.

SEC. 9.—**Claim Defined by the Surface Lines.**—The location, or location certificate, of any lode claim shall be construed to include all surface ground within the surface lines thereof, and all lodes and ledges throughout their entire depth, the top or apex of which lies inside of such lines extended downward, vertically, with such parts of all lodes or ledges as continue to dip beyond the side lines of the claim, but shall not include any portion of such lodes or ledges beyond the end lines of the claim or the end lines continued, whether by dip or otherwise, or beyond the side lines in any other manner than by the dip of the lode.

SEC. 10. If the top or apex of a lode in its longitudinal course extends beyond the exterior lines of the claim at any point on the surface, or as extended vertically downward, such lode may not be followed in its longitudinal course beyond the point where it is intersected by the exterior lines.

SEC. 11.—**Right of Way and Right of Surface.**—All mining claims now located, or which may be hereafter located, shall be subject to the right of way of any ditch or flume for mining purposes, or of any tramway or pack trail, whether now in use, or which many be hereafter laid out across any such location. *Provided, always,* That such right of way shall not be exercised against any location duly made and recorded, and not abandoned prior to the establishment of the ditch, flume, tramway, or pack trail, without consent of the owner, except by condemnation, as in case of land taken for public highways. Parol consent to the location of any such easement, accompanied by the completion of the same over the claim, shall be sufficient without writings. *And provided further,* That such ditch or flume shall be so constructed that the water from such ditch or flume shall not injure vested rights by flooding or otherwise.

SEC. 12. When the right to mine is in any case separate from the ownership or right of occupancy to the surface, the owner or rightful occupant of the surface may demand satisfactory security from the miner, and if it be refused, may enjoin such miner from working until such security is given. The order for injunction shall fix the amount of bond.

SEC. 13.—**Re-location by the Owner.**—If at any time the locator of any mining claim heretofore or hereafter located, or his assigns, shall apprehend that his original certificate was defective, erroneous, or that the requirements of the law had not been complied with before filing; or shall be desirous of changing his surface boundaries, or of taking in any part of an overlapping claim which has been abandoned; or in case the original certificate was made prior to the passage of this law, and he shall be desirous of securing the benefits of this Act, such locator or his assigns may file an additional certificate, subject to the provisions of this Act. *Provided,* That such re-location does not interfere with the existing rights of others at the time of such re-location, and no such re-location or the record thereof, shall preclude the claimant or claimants from proving any such title or titles as he or they may have held under previous location.

SEC. 14.—**Labor.**—The amount of work done, or improvements made during each year, shall be that prescribed by the laws of the United States.

SEC. 15.—**Proof of Labor.**—Within six months after any set time, or annual period herein allowed for the performance of labor, or making improvements upon any lode claim, the person on whose behalf such outlay was made, or some person for him, shall make and record an affidavit, in substance as follows:

STATE OF COLORADO } ss.
County of ———. }

Before me, the subscriber, personally appeared ———, who, being duly sworn, saith that at least ——— dollars' worth of work or improvements were performed or made upon [here describe claim or part of claim] situate in ——— mining district, county of ———, State of Colorado. Such expenditure was made by or at the expense of ———, owners of said claim, for the purpose of said claim.

[Jurat.] [Signature.]

And such signature shall be *prima facie* evidence of the performance of such labor.

SEC. 16.—**Relocation of Abandoned Claims.**—The re-location of abandoned lode claims shall be by sinking a new discovery shaft and fixing new boundaries in the same manner as if it were the location of a new claim; or the re-locator may sink the original discovery shaft ten feet deeper than it was at the time of abandonment, and erect new, or adopt the old boundaries, renewing the posts, if removed or destroyed In either case a new location stake shall be erected. In any case, whether the whole or part of an abandoned claim is taken, the location certificate may state that the whole or any part of the new location is located as abandoned property.

SEC. 17.—**One Record for Each Claim.**—No location certificate shall claim more than one location, whether the location be made by one or several locators. And if it purport to claim more than one location, it shall be absolutely void, except as to the first location therein described. And if they are described together, or so that it cannot be told which location is first described, the certificate shall be void as to all.

SEC. 18. All Acts or parts of Acts in conflict with this Act, are repealed.

SEC. 19. This Act shall be in force from and after June 15, 1874.

Approved February 13, 1874.

An Act Concerning Mines.

Be it enacted by the Council and House of Representatives of Colorado Territory:

SEC. 1.—**Right of Survey and Inspection.**—In all actions pending in any district court of this Territory, wherein the title or right of possession to any mining claim shall be in dispute, the said court, or the judge thereof, may, upon the application of any of the parties to such suit, enter an order for the underground as well as surface survey of such part of the property in dispute, as may be necessary to a just determination of the question involved. Such order shall designate some

competent surveyor, not related to any of the parties to such suit, no in any wise interested in the result of the same; and upon the applica tion of the party adverse to such application, the court may also appoint some competent surveyor, to be selected by such adverse applicant, whose duty it shall be to attend upon such survey, and observe the method of making the same; said second survey to be at the cost of the party asking therefor. It shall also be lawful in such order to specify the names of witnesses named by either party, not exceeding three on each side, to examine such property, who shall thereupon be allowed to enter into such property and examine the same; said court, or the judge thereof, may also cause the removal of any rock, debris, or other obstacle in any of the drifts or shafts of said property, when such removal is shown to be necessary to a just determination of the questions involved; *Provided*, however, that no such order shall be made for survey and inspection, except in open court or in chambers, upon notice of application for such order of at least six days, and not then except by agreement of parties, or upon the affidavit of two or more persons that such survey and inspection is necessary to the just determination of the suit, which affidavits shall state the facts in such case, and wherein the necessity for survey exists; nor shall such order be made unless it appears that the party asking therefor had been refused the privilege of survey and inspection by the adverse party.

SEC. 2.—**Mandatory Writ to Restore Possession.**—The said district courts of this Territory, or any judge thereof, sitting in chancery, shall have, in addition to the power already possessed, power to issue writs of injunction for affirmative relief, having the force and effect of a writ of restitution, restoring any person or persons to the possession of any mining property from which he or they may have been ousted, by force and violence, or by fraud, or from which they are kept out of possession by threats, or whenever such possession was taken from him or them by entry of the adverse party on Sunday, or a legal holiday, or while the party in possession was temporarily absent therefrom. The granting of such writ to extend only to the right of possession under the facts of the case in respect to the manner in which the possession was obtained, leaving the parties to their legal rights on all other questions as though no such writ had issued.

SEC. 3.—**Unlawful Entry.**—In all cases where two or more persons shall associate themselves together for the purpose of obtaining the possession of any lode, gulch, or placer claim, then in the actual possession of another, by force and violence, or threats of violence, or by stealth, and shall proceed to carry out such purpose by making threats against the party or parties in possession, or who shall enter upon such lode or mining claim for the purpose aforesaid, or who shall enter upon or into any lode, gulch, placer claim, quartz mill, or other mining property, or not being upon such property, but within hearing of the same, shall make any threats, or make use of any language, signs, or gestures, calculated to intimidate any person or persons at work on said property, from continuing to work thereon or therein, or to intimidate others from engaging to work thereon or therein, every such person so offending, shall, on conviction thereof, be fined in a sum not to exceed two hundred and fifty dollars, and be imprisoned in the county jail not less than thirty days nor more than six months; such fine to be dis-

charged either by payment or by confinement in said jail until such fine is discharged at the rate of two dollars and fifty cents ($2.50) per day. On trials under this section, proof of a common purpose of two or more persons to obtain possession of property as aforesaid, or to intimidate laborers as above set forth, accompanied or followed by any of the acts above specified by any of them, shall be sufficient evidence to convict any one committing such acts, although the parties may not be associated together at the time of committing the same.

SEC. 4.—**Guilty of Murder.**—If any person or persons shall associate and agree to enter or attempt to enter by force of numbers and the terror such numbers are calculated to inspire; or by force and violence, or by threats of violence against any person or persons in the actual possession of any lode, gulch, or placer claim; and upon such entry or attempted entry, any person or persons shall be killed, said persons, and all and each of them so entering or attempting to enter, shall be deemed guilty of murder in the first degree, and punished accordingly. Upon the trials of such cases, any person or parties cognizant of such entry, or attempted entry, who shall be present, aiding, assisting, or in any wise encouraging such entry, or attempted entry, shall be deemed a principal in the commission of said offense.

SEC. 5. This Act shall take effect and be in force from and after its passage.

Approved, February 13, 1874.

Placer Mining Claims.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. The discoverer of a placer claim shall, within thirty days from the date of discovery, record his claim in the office of the recorder of the county in which said claim is situated, by a location certificate, which shall contain: *First*, the name of the claim, designating it as a placer claim. *Second*, the name of the locator. *Third*, the date of location. *Fourth*, the number of acres or feet claimed. And *Fifth*, a description of the claim by such reference to natural objects or permanent monuments as shall identify the claim.

Before filing such location certificate, the discoverer shall locate his claim: *First*, by posting upon such claim a plain sign or notice, containing the name of the claim, the name of the locator, the date of discovery, and the number of acres or feet claimed. *Second*, by marking the surface boundaries with substantial posts, and sunk in the ground, to wit: One at each angle of the claim.

SEC. 2. On each placer claim of one hundred and sixty acres or more heretofore or hereafter located, and until a patent has been issued therefor, not less than one hundred dollars' worth of labor shall be performed or improvements made by the first day of August, 1879, and by the first day of August of each year thereafter. On all placer claims containing less than one hundred and sixty acres, the expenditure during each year shall be such proportion of one hundred dollars, as the number of acres bears to one hundred and sixty. On all placer claims containing less than twenty acres, the expenditures during each year shall not be less than twelve dollars; but when two or more claims lie contiguous, and are owned by the same person, the expenditure hereby required for each claim may be made on any one claim; and upon a

failure to comply with these conditions, the claim or claims upon which such failure occurred, shall be open to relocation, in the same manner as if no location of the same had ever been made; *provided*, that the original locators, their heirs, assigns, or legal representatives, have not resumed work upon the claim after failure and before such location; *provided*, the aforesaid expenditures may be made in building or repairing ditches to conduct water upon such ground, or in making other mining improvements necessary for the working of such claim.

Upon the failure of any one of several co-owners to contribute his proportion of the expenditures required hereby, the co-owners who have performed the labor or made the improvements, may at the expiration of the year, to wit: the first of August, 1879, for the locations heretofore made, and one year from the date of locations hereafter made, give such delinquent co-owner personal notice in writing, or if he be a non-resident of the state, a notice by publication in the newspaper published nearest the claim for at least once a week for ninety days, and mailing him a copy of such newspaper if his address be known; and if at the expiration of ninety days after such notice in writing, or after the first publication of such notice, such delinquent should fail or refuse to contribute his proportion of the expenditure required by this action [section], his interest in the claim shall become the property of his co-owners who have made the required expenditures.

[The foregoing was filed in the office of the Secretary of State by the Governor March 12, 1879, without his signature, and became a law under Section 11, Art. IV., Constitution of Colorado.]

MISCELLANEOUS GENERAL LAWS, 1877.

Taxation.

Extract from the Constitution of Colorado.

ART. X., SEC. 3.—**Mines Exempt.**—Page 58. Mines and mining claims bearing gold, silver, and other precious metals (except the net proceeds and surface improvements thereof), shall be exempt from taxation for the period of ten years from the date of the adoption of this constitution (July 1, 1876), and thereafter may be taxed as provided by law.

Penal Provisions.

764. SEC. 169.—**False Weights.** If any person shall knowingly have, keep, or use any false or fraudulent scales or weights for weighing gold or gold dust, or any other article or commodity, every such person so offending shall, on conviction, be fined not exceeding five hundred dollars, or imprisoned in the county jail not exceeding six months.

765. SEC. 170.—**Punishment for Certain Mill-Owners.**—The owner, manager, or agent of any species of quartz mill, arastra mill, furnace, or cupel, employed in extracting gold from quartz, pyrites, or other minerals, who shall neglect or refuse to account for or pay over and deliver all the proceeds thereof to the owner of such quartz, pyrites, or other minerals, excepting such portion of said proceeds as he is entitled to in return for his services, shall, on conviction, be fined in a sum not exceeding one thousand dollars, or be imprisoned in the penitentiary not exceeding one year.

776. SEC. 181.—**Salting Ores.**—That every person who shall mingle or cause to be mingled with any sample of gold or silver bearing ore, any valuable metal or substance whatever, that will increase or in any way change the value of said ore, with the intent to deceive, cheat, or defraud any person or persons, shall, on conviction thereof, be punished by a fine not less than $500 nor more than $1,000, or by confinement in the penitentiary for a term of not less than one nor more than fourteen years, or by both such fine and imprisonment.

1603. SEC. 1.—**Destroying Landmarks.**—That if any person or persons shall willfully and maliciously deface, remove, pull down, injure, or destroy any location-stake, side-post, corner-post, landmark, or monument, or any other legal land boundary monument in this state, designating, or intending to designate the location, boundary, or name of any mining claim, lode, or vein of mineral, or the name of the discoverer, or date of discovery thereof; the person or persons so offending shall be guilty of a misdemeanor, and, on conviction thereof, shall be fined not more than one thousand dollars, or imprisoned not more than one year, at the discretion of the court; *provided*, that this Act shall not apply to abandoned property.

673. SEC. 78.—**Passing Counterfeit Gold Dust.**—Every person who shall mingle or procure to be mingled with any uncoined gold or gold dust now current, or which shall hereafter be current in this state, any counterfeit gold dust, or counterfeit uncoined gold, or any base metal or substance whatever, with intent to utter or pass the same, or to procure the same to be uttered or passed as gold dust or uncoined gold, shall, on conviction thereof, be punished by a fine not to exceed one thousand dollars, or by confinement in the penitentiary for a term not less than one year nor more than fourteen years.

1961. SEC. 5.—**Buying Stolen Ore.**—Any person, association, or corporation, or the agent of any person, association, or corporation, who shall knowingly purchase or contract to purchase, or shall make any payment for or on account of any ore, which shall have been taken from any mine or claim, by persons who have taken or may be holding possession of any such mine or claim, contrary to any penal law now in force, or which may be hereafter enacted, shall be considered as an accessory after the fact to the unlawful holding or taking of such mine or claim, and upon conviction shall be subjected to the same punishment to which the principals may be liable.

1962. SEC. 6.—**False Mill Weights.**—Any person, association, or corporation, or the agent of any person, association or corporation engaged in the business of milling, sampling, concentrating, reducing, shipping, or purchasing ores as aforesaid, who shall keep or use any false or fraudulent scales or weights for weighing ore, or who shall keep or use any false or fraudulent assay scales or weights for ascertaining the assay value of ore, knowing them to be false, every person so offending shall be deemed guilty of a misdemeanor, and on conviction thereof, shall be fined in a sum not exceeding one thousand (1,000) dollars, nor less than one hundred (100) dollars, or imprisonment not more than one year, or both, at the discretion of the court.

1963. SEC. 7.—**False Mill Returns.**—Any person, corporation, or association, or the agent of any person, corporation, or association, engaged in the milling, sampling, concentrating, reducing, shipping, or

purchasing of ores in this state, who shall, in any manner, knowingly alter or change the true value of any ores delivered to him or them, so as to deprive the seller of the result of the correct value of the same, or who shall substitute other ores for that delivered to him or them, or who shall issue any bill of sale or certificate of purchase that does not exactly and truthfully state the actual weight, assay value, and total amount paid for any lot or lots of ore purchased, or who, by any secret understanding or agreement with another, shall issue a bill of sale or certificate of purchase that does not truthfully and correctly set forth the weight, assay value, and total amount paid for any lot or lots of ore purchased by him or them, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined in a sum not exceeding one thousand (1,000) dollars, nor less than one hundred (100) dollars, or imprisonment not more than one year, or both, at the discretion of the court.

1964. SEC. 8.—**Larceny of Ores.**—If any person, lessee, licensee, or employee in or about any mine in this State, shall break and sever, with intent to steal the ore or mineral from any mine, lode, ledge, or deposit in this State, or shall take, remove, or conceal the ore or mineral from any mine, lode, ledge, or deposit, with intent to defraud the owner or owners, lessee, or licensee of any such mine, lode, ledge, or deposit, such offender shall be deemed guilty of felony, and on conviction, shall be punished as for grand larceny.

Drainage of Mines.

1830. SECTION 1.—**Proportionate Share.**—Whenever contiguous and adjacent mines upon the same or upon separate lodes have a common ingress of water, or from subterraneous communication of the water have a common drainage, it shall be the duty of the owners, lessees, or occupants of each mine so related to provide for their proportionate share of the drainage thereof.

1831. SEC. 2.—**Failure to Drain.**—Any parties so related, failing to provide as aforesaid, for the drainage of the mines owned or occupied by them, thereby imposing an unjust burden upon neighboring mines whether owned or occupied by them, shall pay respectively to those performing the work of drainage, their proportion of the actual and necessary cost and expense of doing such drainage, to be recovered by an action in any court of competent jurisdiction.

1832. SEC. 3.—**Draining Corporation.**—It shall be lawful for all mining corporations or companies, and all individuals engaged in mining, having thus a common interest in draining such mines, to unite for the purpose of effecting the same, under such common name and upon such terms and conditions as may be agreed upon; and every such association, having filed a certificate of incorporation, as provided by law, shall be deemed a corporation, with all the rights, incidents, and liabilities of a body corporate, so far as the same may be applicable.

1833. SEC. 4.—**Failure to Mutually Agree.**—Failing to mutually agree, as indicated in the preceding section, for drainage jointly, one or more of the said parties may undertake the work of drainage, after giving reasonable notice; and should the remaining parties then fail, neglect or refuse to unite in equitable arrangements for doing the work, or sharing the expense thereof, they shall be subject to an action there-

for as already specified, to be enforced in any court of competent jurisdiction.

1834. SEC. 5.—**Court Proceedings.**—When action is commenced to recover the cost and expenses for draining a lode or mine, it shall be lawful for the plaintiff to apply to the court, if in session, or to the judge thereof in vacation, for an order to inspect or examine the lodes or mines claimed to have been drained by the plaintiff; or some one for him, shall make affidavit that such inspection or examination is necessary for a preparation of the case for trial. The court or judge shall grant an order for the underground inspection and examination of the lode or mines described in the petition. Such order shall designate the number of persons, not exceeding three besides the plaintiff or his representative, to examine and inspect such lode and mines, and take the measurement thereof, relating the amount of water drained from the lode or mine, or the number of fathoms of ground mined and worked out of the lode or mines claimed to have been drained, the cost of such examination and inspection to be borne by the party applying therefor. The court or judge shall have power to cause the removal of any rock, debris, or other obstacles in any lode or vein, when such removal is shown to be necessary to a just determination of the question involved; *provided*, that no such order for inspection and examination shall be made except in open court, or at chambers, upon notice of application for such order of at least three days, and not then except by agreement of parties, nor unless it appears that the plaintiff has been refused the privilege of making the inspection and examination by the defendant, his or their agent.

1835. SEC. 6.—**Water Beyond Control.**—That hereafter, when any person or persons, or corporation, shall be engaged in mining or milling, and in the prosecution of such business shall hoist or raise water from the mines or natural channels, and the same shall flow away from the premises of such persons, or corporations, to any natural channel or gulch, the same shall be considered beyond the control of the party so hoisting or raising the same, and may be taken and used by other parties the same as that of natural water courses.

1836. SEC. 7.—**Liable for Injury.**—After any such water shall have been so raised, and the same shall have flown into any such natural channel, gulch, or draw, the party so hoisting or raising the same shall only be liable for injury caused thereby, in the same manner as riparian owners along natural water courses.

1837. SEC. 8.—**Undeveloped Mines.**—The provisions of this Act shall not be construed to apply to incipient or undeveloped mines, but to those only which shall have been opened, and shall clearly derive a benefit from being drained.

1838. SEC. 9.—**Admissible Evidence.**—In trial of cases arising under this Act, the court shall admit evidence of the normal stand, or position of the water while at rest in an idle mine, also the observed prevalence of a common water level, or a standing water line in the same, or separate lodes; also, the effect (if any) the elevating or depressing the water by natural or mechanical means in any given lode, has upon elevating or depressing the water in the same, contiguous, or separate lodes or mines; also, the effect which draining or ceasing to drain any given lode or mine had upon the water in the same or con-

tiguous or separate lodes or mines, and all other evidence which tends to prove the common ingress or subterraneous communication of water into the same lode or mine, or contiguous or separate lodes or mines.

Ore.

1957. SECTION 1.—**Contents of Record.**—That every person, association, or corporation that shall be engaged in the business of milling, sampling, concentrating, reducing, shipping, or purchasing ores in the State of Colorado, shall keep and preserve a book in which shall be entered at the time of the delivery of each lot of ore:

First—The name of the party on whose behalf such ore is delivered, as stated.

Second—The name of the teamster, packer, or other persons actually delivering such ore, and the name of the owner of the team or pack train delivering such ore.

Third—The weight or amount of every such lot of ore.

Fourth—The name and location of the mine or claim from which it shall be stated that the same has been mined or procured.

Fifth—The date of delivery of any and all lots or parcels of ore.

1958. SEC. 2.—**Proceedings when Ore is Stolen.**—Whenever affidavit shall have been made before any police magistrate of any town in this State, or any justice of the peace of any county, by any person, that ore has been stolen from him, stating as near as may be the amount and value of the ore stolen, such person upon presentation of a certified copy of such affidavit, shall have access to such book, and may examine the entries which may have been made therein during a period of fifteen days next preceding the filing of such affidavit; *provided,* tha the person making such affidavit shall, at the time of making the same, have a present interest in the product of the mine or claim from which said ore has been stolen, or in the ore alleged to have been stolen.

1959. SEC. 3.—**Failure to Keep Required Books.**—Every person, association, or corporation that shall fail or refuse to keep the book required by the terms of the first section of this Act, or shall fail or refuse to make any proper entry therein, or who shall make any false entry therein, or who shall refuse to any person who may be entitled to the same, as provided by section two (2) of this Act, the right of inspection thereof, shall forfeit and pay for each and every violation of the provisions of said section a penalty of not less than fifty (50) nor more than three hundred (300) dollars, to be collected by action of debt at the suit of any person who may sue for the same. In addition to such penalty, any person, association, or corporation violating the provisions of said first section, shall be liable at the suit of the party or persons aggrieved, in the proper form of action, for all damages which may accrue to any party or person by reason of such violation. And in all actions the fact that a false entry has been made shall be *prima facie* evidence that the same was made wilfully or knowingly.

1960. SEC. 4.—**Failure to Make Inquiries.**—If any person, association, or corporation shall fail or neglect to make the inquiries necessary to the making of the proper entries in said book, as provided in section one (1) of this Act, or shall so negligently make entries therein that any lot of ore cannot be particularly identified, or so negligently that it cannot be perceived therefrom what person delivered any lot of

ore or received the proceeds of the same when purchased, or shall fail to keep such book, or shall wilfully suffer the same to be lost, or mislaid, so that the same cannot be produced for inspection, such failure or neglect shall not excuse any party defendant in any suit brought under the preceding section from judgment for any penalty prescribed by said section.

Water Rights.

1798. SEC. 2.—**Right of Way.**—Whenever any person or persons are engaged in bringing water into any portion of the mines, they shall have the right of way secured to them, and may pass over any claim, road, ditch, or other structure; *provided*, the water be guarded so as not to interfere with prior rights.

1821. SEC. 11. All mining claims now located, or which may be hereafter located, shall be subject to the right of way of any ditch or flume for mining purposes, or of any tramway or pack-trail, whether now in use, or which may be hereafter laid out across any such location; *provided, always*, that such right of way shall not be exercised against any location duly made and recorded, and not abandoned prior to the establishment of the ditch, flume, tramway, or pack-trail, without consent of the owner, except by condemnation, as in case of land taken for public highways. Parol consent to the location of any such easement, accompanied by the completion of the same over the claim, shall be sufficient without writings; *and provided further*, that such ditch or flume shall be so constructed that the water from such ditch or flume shall not injure vested rights by flooding or otherwise.

2779. SEC. 3.—**Miners' Inch.**— * * And water sold by the inch by any individual or corporation, shall be measured as follows, to wit: Every inch shall be considered equal to an inch square orifice under a five-inch pressure, and a five-inch pressure shall be from the top of the orifice of the box put into the banks of the ditch, to the surface of water; said boxes, or any dot or aperture through which such water may be measured, shall in all cases be six inches perpendicular inside measurement, except boxes delivering less than twelve inches, which may be square, with or without slides; all slides for the same shall move horizontally and not otherwise; and said box put into the banks of ditch shall have a descending grade from the water in ditch of not less than one-eighth of an inch to the foot.

Tailings.

1804. SEC. 8.—**Miners Responsible.**—In no case shall any person or persons be allowed to flood the property of another person with water, or wash down the tailings of his or their sluice upon the claim or property of other persons, but it shall be the duty of every miner to take care of his own tailings, upon his own property, or become responsible for all damages that may arise therefrom.

Hauling Quartz.

1805. SEC. 9.—**Right of Way.**—Every miner shall have the right of way across any and all claims for the purpose of hauling quartz from his claim.

Mining Claims, Real Estate, Actions.

185. SEC. 26.—**Definitions.**—The terms "land" and "real estate," as used in this chapter, shall be construed as co-extensive in meaning with the terms "lands, tenements, hereditaments," and as embracing mining claims and other claims, and chattels real. The term "deed" includes mortgages, leases, releases, and every conveyance or encumbrance under seal.

2126. SEC. 3.—**Transferable Interest.**—The owner of every claim or improvement, on every tract or parcel of land, has a transferable interest therein, which may be sold in execution or otherwise; and any sale of such improvement is a sufficient consideration to sustain a promise.

2131. SEC. 8.—**Claimant May Maintain Action.**—Any person settled upon any of the public lands belonging to the United States, may maintain trespass *quare clausum fregit*, trespass, ejectment, forcible entry and detainer, unlawful detainer, and forcible detainer, for injuries done to the possession thereof.

2135. SEC. 12.—**City and Village Lots.**—Any person who may have a title to occupy any lot or lots within any city or village plot, or any lots or mining claim within any mining district in this state, in virtue of a certificate, deed of gift or purchase from the original claimant or claimants, or their assigns, as well as all purchasers, under any decree or execution of any of the so-called provisional government courts, peoples' or miners' courts, of the lands situate within any city or village plot, or any lots, land, or mining claims situate within any mining district, together with the original claimant or claimants of said lots, land, or mining claims, shall be entitled to maintain the actions authorized by the eighth section of this chapter, against any and all persons who shall enter upon and occupy said lots, lands, or mining claims, or any of them; *provided*, it shall be lawful for the citizens of any mining district to declare an abandonment of any creek, river, gulch, bank, or mining claim a forfeiture of the rights of the claimants thereto; in which case the parties claimant shall not be enabled to maintain either of the actions mentioned in section eight of this chapter.

2136. SEC. 13.—**United States Title.**—Nothing in this chapter contained shall be construed to deny the right of the United States to dispose of any lands in this state; nor shall the fact that the title to any lots, lands, lodes, or mining claims hath not passed from the United States, be any bar to the recovery of the plaintiff in either of the actions specified in section eight of this chapter. As against the United States, and all persons holding any of said lands under the United States, or the laws thereof, this chapter shall be of non-effect and void.

For laws as to liens of miners and mechanics, see Session Laws of 1881, p. 168; Laws of 1883, p. 225; Laws of 1893, p. 315; Laws of 1895, p. 202.

Annual Assessment.

AN ACT *to amend Section 2410 of the general statutes, being Section 26, of Chapter LXXIV. thereof, entitled "Mines."*

SECTION 1. **Affidavit.**—That Section 2410, of the general statutes, being Section 26, of Chapter LXXIV. thereof, entitled "Mines," be and the same is hereby amended so as to read as follows: 2410, Section 26. Within six months after any set time or annual period allowed for the performance of labor or making improvements, upon any lode claim or placer claim, the person on whose behalf such outlay was made, or some person for him, may make and record in the office of the Recorder of the county wherein such claim is situate, an affidavit in substance as follows:

STATE OF COLORADO, } ss.
——— County. }

Before me, the subscriber, personally appeared ———, who, being duly sworn, saith, that at least ——— dollars' worth of work or improvements were performed or made upon (here describe claim or part of claim,) situate in ——— mining district, county of ———, State of Colorado, between the —— day of ———, A. D. ——, and the —— day of ———, A. D. ——. Such expenditure was made by or at the expense of ——— owners of said claim, for the purpose of complying with the law and holding said claim.

——— ———

[Jurat.] ——— [Signature.]

And such affidavit, when so recorded, shall be *prima facie* evidence of the performance of such labor or the making of such improvements.

SEC. 2. **Take Effect.**—In the opinion of this General Assembly an emergency exists; therefore this act shall take effect from and after its passage.

Approved March 31, 1887.—Laws of 1887, page 342.

AN ACT *to amend an Act entitled, "An Act to amend section twenty-four hundred and ten of the General Statutes, being section twenty-six of Chapter LXXIV. thereof, entitled 'mines,'" approved March 31, 1887.*

SECTION 1.—**Affidavit of Expenditure.**—That section one of an act entitled "An Act to amend section twenty-four hundred and ten of the General Statutes, being section twenty-six of Chapter LXXIV. thereof, entitled 'Mines,'" approved March 31, 1887, be and the same is hereby amended to read as follows: Sec. 1. That section twenty-four hundred and ten of the General Statutes, being section twenty-six of Chapter LXXIV. thereof, entitled "Mines," be and the same is hereby amended so as to read as follows: 2410, Sec. 26. Within six months after any set time or annual period allowed for the performance of labor or making improvements upon any lode claim or placer claim, the person on whose behalf such outlay was made, or some person for him, may make and record in the office of the Re-

corder of the county wherein such claim is situate, an affidavit in substance as follows:

STATE OF COLORADO, } ss.
——— County. }

Before me, the subscriber, personally appeared ———, who, being duly sworn, saith that at least ——— dollars worth of work or improvements were performed or made upon (here describe claim or part of claim,) situate in ——— mining district, county of ———, State of Colorado, between the —— day of ———, A. D., ——, and the —— day of ——— A. D. ——. Such expenditure was made by or at the expense of ———, owners of said claim, for the purpose of complying with the law and holding said claim.

——— ———

[Jurat.] [Signature.]

And such affidavit, when so recorded, shall be *prima facie* evidence of the performance of such labor, or the making of such improvements; *Provided*, That all affidavits of labor or improvements upon placer claims heretofore filed and recorded within the period prescribed in this section, or within the period prescribed in section twenty-four hundred and ten of the General Statutes, which shall contain in substance the requirements of the affidavit prescribed by this section, or said section twenty-four hundred and ten, shall be *prima facie* evidence of the performance of such labor or the making of such improvements; and the original thereof, or a certified copy of the record of the same, shall be received as evidence accordingly by the courts of this State, and this class of evidence shall be receivable, where relevant or material, in all cases, whether now pending or hereafter brought.

Approved April 20, 1889.

Laws of 1889. Page 261.

Lens on Mines.

An Act to amend Sec. 8 of an Act entitled, "An Act to secure liens to mechanics and others, and to repeal all laws in conflict therewith." Approved April 3d, 1893:

SEC. 8. **Workmen and Materials.**—The provisions of this Act shall apply to all persons who shall do work, or shall furnish material for the working, preservation or development of any mine, lode or mining claim or deposit, yielding metals or minerals of any kind, or for the working, preservation or development of any such mine lode or deposit, in search of such metals or minerals; and to all persons who shall do work or furnish materials upon any shaft, tunnel, incline, adit, drift or draining of any such mine, lode or deposit: *Provided*, That when two or more lodes, mines or deposits, owned or claimed by the same person or persons, shall be worked through a common shaft, tunnel, incline, adit, drift or other excavation, then all the mines, lodes or deposits so worked shall, for the purpose of this Act, be deemed one mine: and *Provided further*, That this section shall not be deemed to apply to the owner or owners of any mine, lode, deposit, shaft, tunnel, incline, adit, drift or other excavation, who shall lease the same in small blocks of ground to one or more sets of lessees. [Immediate.]

Approved April 13, 1895. Laws of 1895, page 202.

Mining Tunnels.

SECTION 1. **Rights of Tunnel Owners.**—Any person or company who has or hereafter may have a tunnel or cross-cut, the mouth of which is located upon his own ground or upon ground in his lawful occupation, shall have the right to drive and continue the same through and across any located or patented claim in front of the mouth of such tunnel, but not to follow or drive upon any vein belonging to the owner of such claim.

SEC. 2. **Rights of Owners of Intersecting Claims.**—Such tunnel or cross-cut may be driven and worked for the purpose of drainage and for the purpose of reaching and working mining ground of the tunnel owner beyond the intersected claim. The owner or owners of any vein or any claim or claims so intersected, or his duly authorized agent, shall have the right to enter such tunnel upon application to the owner or owners of said tunnel without resorting to any process of law for the purpose of making a survey and inspecting such vein or veins as may be crossed within the boundary lines of such intersected claim, and if the owner or owners of such tunnel shall, by bulk-heading, damming back or in any manner prevent the inspection or survey herein provided for, or if such owner or owners shall in any manner prevent the natural drainage of water from such intersected claim or claims without the consent of the owner or owners thereof, it shall work a forfeiture of all rights granted under Section One of this Act.

SEC. 3. **Owner of Ore—Damages.**—If any ore, the property of the owner of the claim intersected or crossed, be extracted in driving such tunnel, it shall be the property of the owner of the vein from which it was taken, and the owner of the tunnel shall be liable for all actual damages or injury done to the owner of the claim crossed by his tunnel.

SEC. 4. **Burden of Proof.**—In all actions between the tunnel owner and others involving the right to any vein discovered in such tunnel, the burden of proving that the vein so discovered is not the property of the adverse claimant in such action shall be on the tunnel owner.

Approved April 17, 1897.

Session Laws, 1897, page 181.

IDAHO.

Miners' Lien.

SEC. 12.—**Quartz Mine or Material.**—Every sub-contractor, journeyman, laborer, or other person, performing labor or furnishing materials for any contractor, in or upon any quartz claim, ledge, or mine, in working in the same or in the improvement or development thereof in the completion or performance of any contract entered into by any person in this Territory, every such person or persons so performing such labor or furnishing such material shall have a lien upon all the interest in such quartz claim, ledge, or mine, of the person or persons employing him or them, or purchasing such materials with the improvements thereon and appurtenances thereto belonging, and also upon all the interest of the person or persons for whom such person or persons acts as agent, or the owner or owners, for the value of such work, or labor or materials furnished, and all the provisions of this act shall apply in respect to recording, recovering, and enforcing such liens provided for in this section: *provided*, the person or persons claiming such lien shall within thirty days after the performance of such labor or furnishing such materials, give notice in writing to any person or persons, agent or agents, owner or owners, and shall within forty days file their lien in other respects as provided by this act.

SEC. 13.—**Quartz Mine or Ore.**—When any person or persons shall do or perform any work or labor in or upon or for any quartz claim, mine, or ledge, in working the same or in the improvement or development thereof; or in the preparation of the ores thereof for reduction; or in the hauling of the ores thereof; or shall perform labor or service as superintendent, manager, or foreman of any mine or ledge, or shall perform labor as a mechanic or artisan therefor; such person or persons shall have a lien upon all the interests in such quartz claim, ledge, or mine of the person or persons employing him or them, or purchasing such materials, together with the improvements thereon and appurtenances for the value of such work, labor, or services, or materials furnished, and all the provisions of this act respecting the filing, recording and recovering and enforcing mechanics' liens are made applicable to this section: *provided*, the person or persons claiming such liens shall, within sixty days after the completion of such work or labor, or rendering said services or furnishing said materials, file their lien in other respects as provided by this act.

SEC. 14.—**What is Included.**—This Act shall be so construed as to include in its provisions bridges, ditches, flumes, aqueducts to create hydraulic power for mining purposes, and all improvements on mining claims.—Extract from an Act approved Jan. 11, 1875. Laws of 1874–5, p. 615. See Act approved February 27, 1893, Laws of 1893, p. 49.

General Law of March 5, 1895.

SECTION 1. **Width of Lode Claims.**—That Section 3100 of the Revised Statutes of Idaho be amended to read as follows: Sec. 3100. Mining claims hereafter located upon veins or lodes of quartz or other rock in place, bearing any of the metals or other valuable deposits mentioned in Section 2320 of the Revised Statutes of the United States, may extend to 300 feet on each side of the middle of the vein or lode: *Provided*, That when the locators have set stakes, posts or monuments, described in Section 2 hereof, to indicate the line of the vein, ledge or lode, such stakes, posts or monuments must be taken for the purpose of such location, to mark correctly the line thereof, and such line must not afterwards be changed so as to affect rights acquired or interfere with any locations made subsequent thereto.

SEC. 2. **Location Notice—Monuments.**—Section 3101 of the Revised Statutes of Idaho be amended to read as follows: Section 3101. The locator at the time of making discovery of such vein or lode, must erect a monument at such place of discovery, upon which he must place his name, the name of the claim, the date of discovery and distance claimed along the vein each way from such monument. Within three days from the date of discovery, he must mark the boundaries of his claim by establishing at each corner thereof, and at any angle in the side lines, a monument marked with the name of the claim and the corner or angle it represents; also, at the time of so marking his boundaries, he must post at his discovery-monument his notice of location, in which must be stated: 1st, the name of the locator; 2d, the name of the claim; 3d, the date of discovery; 4th, the direction and distance claimed along the ledge from the discovery; 5th, the distance claimed on each side of the middle of the ledge; 6th, the distance and direction from the discovery monument to such natural object or permanent monument, if any such there be, as will fix and describe in the notice itself the location of the claim; and 7th, the name of the mining district, county and state. When from any cause a monument cannot be safely planted at the true corner or angle, it may be placed as near thereto as practicable, and so marked as to indicate the place of such corner or angle. Monuments may be made of any such material or form as will readily give notice, and when of posts or trees, they must be hewn and marked upon the side facing towards the discovery, and must be at least 4 inches square or in diameter.

Monuments must be at least 4 feet high above the ground, and trees must be so hewn as to readily attract attention. At the time the locator so marks the boundaries of his claim, he may do so in any direction that will not interfere with rights or claims which existed prior to his discovery.

SEC. 3. **Assessment Work.**—Within sixty days after such location, the locator or his assigns must sink a shaft upon the lode to the depth of at least 10 feet from the lowest part of the rim of such shaft at the surface, and of not less than 16 square feet area. Any excavation which shall cut such vein ten feet from the lowest part of the rim of such shaft, and which shall measure 160 cubic feet in extent, shall be considered a compliance with this provision. Any located claim upon which work has been done in compliance with the above require-

ments, is not, unless abandoned, subject to relocation for a period of ninety days from and after the date of location.

SEC. 4. **Recording Notice.**—Within ninety days after the location of the claim, the locator or his assigns must file for record in the office of the county recorder of the county, or of the deputy recorder of the mining district in which the claim is situated, a substantial copy of his notice of location.

SEC. 5. **Relocation.**—If at any time the locator of any mining claim heretofore or hereafter located, or his assigns, shall apprehend that his original certificate was defective, erroneous, or that the requirements of the law had not been complied with before filing, or shall be desirous of changing the surface boundaries, or of taking any part of an overlapping claim which has been abandoned, or in case the original certificate was made prior to the passage of this law, and he shall be desirous of securing the benefits of this Act, such locator or his assigns may file an additional certificate, subject to the conditions of this Act, and to contain all that this Act required an original certificate to contain: *Provided*, That such amended location does not interfere with the existing rights of others at the time when such amendment is made.

SEC. 6. **Labor Affidavit.**—Within sixty days after any time set or period allowed for the performance of labor, or making improvements upon any lode or placer claim, the person in whose behalf such work or improvement is performed, or some person for him, must make and record an affidavit in substance as follows:

State of Idaho, County of ———, *ss*.

Before me the subscribed personally appeared, ———, who being first duly sworn, says that at least ——— dollars worth of work or improvements were performed or made upon ——— claim, situate in ——— mining district, county of ——— state of Idaho; that such expenditure was made by, for, or at the expense of ———, owners of said claim, for the purpose of holding said claim.

Signature, ————————.

Subscribed and sworn to before me this ——— day of ———, 189–. ————————.

The fee for administering the oath and recording the foregoing affidavit, when taken before the county recorder or deputy mining recorder, shall be fifty cents; the fee for recording the same when the oath is taken before any other officers authorized to administer oaths shall be fifty cents.

Such affidavit, or a certified copy thereof in case the original is lost, shall be *prima facie* evidence of the performance of such labor. The failure to file such affidavit shall be considered *prima facie* evidence that such labor has not been done.

SEC. 7. **Location of Abandoned Claims.**—The location of abandoned claims shall be done in the same manner as if the location were of a new claim; but the locator may, instead of sinking a new discovery shaft, sink the original discovery shaft 10 feet deeper than it was at the time of his location, or he may drive the open cut or tunnel 10 feet further along the course of the lead, lode or vein, and must erect new posts or monuments.

SEC. 8. **Void Location—One Claim.**—No location notice shall

claim more than one location, whether the location is made by one or several locators, and if it purport to claim more than one location it is absolutely void.

SEC. 9. **County Records—Deputy Recorder.**—That Section 3103 of the Revised Statutes of Idaho is hereby amended to read as follows:

Section 3103. For the convenience of prospectors and locators the county recorders of the several counties must appoint a deputy at any place where he may deem it necessary, and at all places more than twenty miles distant from an existing office whenever ten or more mining locators interested petition for the appointment of a deputy. Upon failure of any recorder to appoint a deputy for ten days after the petition in writing has been presented to him, the resident miners in such district may appoint temporarily one of their number to act as the recorder for the district, whose record shall be as valid as if made by the deputy, and must be entered by the recorder as hereinafter required: *Provided*, That whenever at any time afterwards the recorder has appointed a deputy for such district or place, the authority of the person elected by the resident miners ceases.

SEC. 10. **Surface Ground.**—When the right to mine is in any case separate from the ownership or right of occupancy of the surface ground, the owners or rightful occupants of the surface ground may demand satisfactory security from the miners, and, if it be refused or not given, may enjoin such miners from working such ground until such security is given. The court granting the writ of injunction shall fix the amount and nature of the security.

SEC. 11. **Placer Locations.**—Placer claims, as mentioned in Sec. 2329 of the Revised Statutes of the United States, may be located for the purpose of mining deposits and precious stones after the discovery of such deposits.

SEC. 12. **Placer Records.**—The locator of any placer mining claim, located for the purpose of mining placer deposits or precious stones, must, at the time of making the location, comply with all the requirements of Sec. 2 and 3 of this Act. Every placer claim must be recorded within thirty days from the time of the location thereof, in the district in which the same is situated or in the office of the county recorder of the county wherein the claim is situated. The location notice thereof must contain the date of the location, the name of the locator, the name and dimensions of the claim, and must also give such a description of the locality thereof, by reference to natural landmarks or fixed objects and contiguous claims, if any, as to render the situation of the same reasonably certain from the letter of the notice itself.

SEC. 13. **Locator's Affidavit.**—That Sec. 3104 of the Revised Statutes of Idaho be amended to read as follows:

Section 3104. At or before the time of presenting a location notice for record, whether it be for a quartz or placer claim, one of the locators named in the same must make and subscribe an affidavit in writing, on or attached to the notice, substantially in the following form, to wit:

State of Idaho, County of ———, *ss.*

I, ———, do solemnly swear that I am a citizen of the United States of America (or have declared my intentions to become such),

and that I am acquainted with the mining ground described in this notice of location, and herewith called the ——— ledge, lode or claim; that the ground and claim therein described, or any part thereof, has not, to the best of my knowledge and belief, been located according to the laws of the United States and of this State, or, if so located, that the same has been abandoned or forfeited by reason of the failure of such former locators to comply in respect thereto with the requirements of said laws, and (in the case of quartz claims) that I have opened new ground to the extent or depth of ten feet, as required by the laws of Idaho. Signature, ————————.

Subscribed and sworn to before me this ——— day of ———, A. D., 189–. Signature, ————————.

SEC. 14. **Record Book—Fee.**—That Sec. 3105 of the Revised Statutes of Idaho is amended so as to read as follows, to wit:

Section 3105. The location notice herein required to be recorded must be recorded by the deputy appointed for the district, or the person appointed for that purpose as above provided (when the legal fee therefor is tendered), in a book to be kept for that purpose. Said book must be indexed with the names of all the locators, arranged in alphabetical order, according to the family or surname of each. The fee to be tendered for making such record, administering the oath to the locator and certifying the same, for indexing the names appearing on the notice, and to include recording the notice by the recorder, as hereinafter required, and the indexing by said recorder, is $2.00, which fee must be equally divided between the recorder and the deputy, or the person acting under an election as hereinbefore provided, and no other additional sum of money must be demanded or received by either of them for any services connected with the recording of any location notice made pursuant to the requirements of this chapter.

SEC. 15. **Repeals.**—Sec. 3102 of chap. 1, title 8, and sections 3120, 3121 and 3122, chap. 2, title 8, of the Revised Statutes of the State of Idaho are hereby repealed.

Laws of 1895, page 25.

An Act to authorize aliens to take, hold and dispose of mining property.

SECTION 1. **Aliens Except Chinese.**—That any person, whether citizen or alien, (except as hereinafter provided) natural or artificial, may take, hold and dispose of mining claims and mining property, real or personal, tunnel rights, mill sites, quartz mills and reduction works used or necessary or proper for the reduction of ores, and water rights used for mining or milling purposes, and any other lands or property necessary for the working of mines or the reduction of the products thereof; *Provided*, That Chinese, or persons of Mongolian descent not born in the United States, are not permitted to acquire title to land or any real property under the provisions of this act.

[Took effect immediately.]

Approved March 2, 1891.

Acts of 1890–1, p. 118.

An Act to define the manner of locating placer claims, to determine the form of the location certificates and to amend Sec. 12 of an Act entitled "An Act to define the manner of locating lode, quartz and placer claims." Approved March 5, 1895.

SECTION 1. **Placer Claims, how Located.**—That Section 12 of the above entitled Act be amended to read as follows:

Sec. 12. The locator of any placer mining claim located for the purpose of mining placer deposits or precious stones, must, at the time of making the location, place a substantial post or monument as is required in the location of quartz claims at each corner of the location, and must also post on one of the same a notice of location containing the date of the location, the name of the locator, the name and dimensions of the claim, the mining district (if any), and county in which the same is situated; and must also give the distance and direction from said post or monument to such natural object or permanent monument, if any such there be, as will fix and describe in the notice itself, the location of the claim. Within fifteen days after making the location, the locator must make an excavation upon the claim of not less than one hundred cubic feet, for the purpose of prospecting the same. Within thirty days after the location, the locator must file for record in the office of the County Recorder of the county, or of the Deputy Recorder of the mining district in which the claim is situated, a substantial copy of his copy of notice of location, to which must be attached an affidavit such as is required in the case of quartz claims.

Approved March 2, 1897.

Session Laws, 1897, page 13.

MONTANA.

Extract from Code of 1895.

SECTION 3610. **Mineral Claim—Location—Notice.**—Any person, a citizen of the United States, or one who has declared his intention to become such, who discovers a vein or lode, bearing gold, silver, cinnabar, lead, tin, copper or other valuable deposits, or who discovers or locates a placer deposit of gold or other deposits of minerals, including building stone, limestone, marble, clay, sand or other mineral substances having a commercial value, may locate a claim upon such vein, lode or deposit, by defining the boundaries of the claim in the manner hereinafter described, and by posting a notice of such location at the point of discovery, which notice must contain: 1. The name of the lode or claim. 2. The name of the locator or locators. 3. The date of the location. 4. If a lode claim, the number of linear feet claimed in length along the course of the vein, each way from the point of discovery, with the width on each side of the center of the vein, and the general course of the vein or lode as near as may be. 5. If a placer or mill site claim, the number of acres or superficial feet claimed.

SEC. 3611. **Discovery Shaft—Defining Boundaries.**—Before the expiration of ninety days from the date of posting such notice upon the claim, the locator or locators must sink a discovery shaft upon the lode or claim [mill site claims excepted] to the depth of at least ten feet from the lowest part of the rim of such shaft at the surface, or deeper, if necessary to show a well defined crevice or valuable deposit. Its equivalent in work must be done upon placer claims. A cut, or crosscut or tunnel which cuts a lode at the depth of ten feet below the surface, or an open cut of at least ten feet in length along the lode from the point where the lode may be in any manner discovered, is equivalent to a discovery shaft. The locator or locators must define the boundaries of his or their claim by marking a tree or rock in place, or by setting a post or stone at each corner or angle of the claim. When a post is used it must be at least four inches square, by four feet six inches in length, set one foot in the ground, with a mound of earth or stone four feet in diameter by two feet in height around the post. When a stone is used, not a rock in place, it must be at least six inches square and eighteen inches in length, set two-thirds of its length in the ground, which trees, stakes or monuments must be so marked as to designate the corners.

SEC. 3612. **Declaratory Statement—Ninety Days—County Clerk.**—Within ninety days of the date of posting the location notice upon the claim, there must be filed in the office of the county clerk of the county in which the lode or claim is situated a declaratory statement, which must contain: 1. The name of the lode or claim. 2. The name of the locator or locators. 3. The date of location and such description of the location of said claim with reference to some natural

object or permanent monument as will identify the claim. 4. If a lode claim, the number of linear feet claimed in length along the course of the vein each way from the point of discovery, with the width on each side of the center of the vein, and the general course of the lode or vein, as near as may be. 5. If a placer or mill-site claim, the number of acres or superficial feet claimed. 6. The dimensions and location of the discovery shaft, or its equivalent, sunk upon lode or placer claims. 7. The location and description of each corner, with the markings thereon. Such declaratory statement must be verified by the oath of the locator, or one of the locators, and in case of a corporation by an officer thereof, duly authorized to act.

SEC. 3613. **Prior Records.**—All placer mining locations or locations of valuable mineral deposits, which have heretofore been recorded in the office of the county clerk or recorder, have the same force and effect as though such records had been authorized by law, except in cases where the rights of third persons had been acquired before the passage of this Code; and such record is entitled to be admitted in evidence in any court.

SEC. 3614. **Affidavit—Annual Assessment—County Clerk.**—The owner of the lode or placer claim who performs or causes to be performed the annual work or makes the improvements required by the laws of the United States in order to prevent the forfeiture of the claim, may, within twenty days after the annual work, file in the office of the county clerk of the county in which such claim is situated, an affidavit of his own, or an affidavit of the person who performs such work or made the improvements, showing: 1. The name of the mining claim and where situated. 2. The number of days' work done, and the character and value of the improvements placed thereon. 3. The date of performing such work, and of making improvements. 4. At whose instance the work was done or the improvements made. 5. The actual amount paid for work and improvements, by whom paid when the same was not done by the owner. Such affidavits, or a certified copy thereof, are *prima facie* evidence of the facts therein stated.

SEC. 3615. **Relocation of Abandoned Mines.**—The relocation of an abandoned lode or placer claim must be made by sinking a new discovery shaft, and fixing new boundaries in the same manner as if it were an original location made under this Chapter; or the relocator may sink the original shaft ten feet deeper, in which case the declaratory statement must give the depth and dimensions of the original discovery shaft at the date of such relocation. In any case, whether the whole or part of an abandoned claim is taken, the declaratory statement may state that the whole or any part of the new location is located as abandoned property. If it is not known to the locator that his location is on an abandoned claim, then the provisions of this section do not apply.

SEC. 3616. **Declaratory Statement—Official Survey.**—Where a locator or owner of a mining claim has the boundaries and corners of his claim established by a United States deputy mineral land surveyor, and his claim connected with a corner of the public or minor surveys of an established initial point, and incorporates into the declaratory statement the field notes of such survey, and attaches to and files with such declaratory statement, a certificate by the surveyor set-

ting forth: 1. That said survey was actually made by him, giving the date thereof. 2. The name of the claim surveyed and the locators thereof. 3. That the description incorporated in the declaratory statement is sufficient to identify the claim. Such survey and certificate becomes a part of the declaratory statement, and such declaratory statement is *prima facie* evidence of the facts therein contained.

Political Code, 1895, p. 304.

Right of Way—How Secured.

SECTION 3630. **Miners' Right of Way.**—The owner of a mining claim held under the laws of the United States by patent or otherwise, or under the local laws and customs of the State, has a right of way over and across the land or mining claim, patented or otherwise, of another, as prescribed in this chapter.

SEC. 3631. **Road—Ditch—Cut—Flume—Shaft—Tunnel.**—Whenever a mine or mining claim is so situated that it cannot be conveniently worked without a road thereto, or a ditch to convey water thereto, or a ditch or a cut to convey the water therefrom, or without a flume to carry water and tailings therefrom, or without a shaft or tunnel thereto, which road, ditch, cut, flume, shaft, or tunnel must necessarily pass over, under, through, or across any lands or mining claims owned or occupied by another, such owner is entitled to a right of way for said road, ditch, cut, flume, shaft or tunnel over, under, through and across the lands or mining claims belonging to another, upon compliance with the provisions of this Chapter.

SEC. 3632. **Court Proceedings.**—Whenever such owner desires to work a mine or mining claim, and it is necessary to enable him to do so successfully and conveniently, that he should have a right of way for any of the purposes mentioned in the foregoing Sections; and, if such right of way has not been acquired by agreement between him and the owner of the land or claims, over, under, across, and upon which he seeks to establish such right of way, it is lawful for him to present to the Judge of the District Court a complaint asking that such right of way be awarded to him. The complaint must be verified and contain a particular description of the character and extent of the right sought, a description of the mine or mining claim of the owner, and the mining claim or claims and the lands to be affected by such right of way, with the names of the occupants or owners thereof, and may also set forth any tender or offer hereinafter mentioned.

SEC. 3633. **Summons on Defendant.**—Upon the receipt of the complaint, and filing thereof with the clerk of the court, the judge must direct a summons to issue, to the defendants named in the complaint, requiring them to appear before the judge on a day therein named, which must not be less than ten days from the service thereof, and show cause why such right of way should not be allowed; the summons may be served on each of the parties in the manner prescribed by law for serving summons in other actions.

SEC. 3634. **Hearing—Commissioners to Assess Damages.**—Upon the return of the summons, or upon any day to which the hearing is adjourned, the defendants may demur or answer, and issue must be joined, and the judge must hear the allegations and proofs of

the respective parties, and if, upon such hearing, he is satisfied that the claims of the plaintiff can only be conveniently worked by means of the privilege asked for, he must make an order, adjudging and awarding to the plaintiff such right of way, and must appoint three commissioners, disinterested persons and residents of the county, to assess the damages to the lands or claims affected by such order.

SEC. 3635. **Proceedings of Commissioners.**—The commissioners must be sworn to faithfully and impartially discharge their duties, and must without delay examine the property, lands and claims, and assess the damages resulting from such right of way, and report the amount to the judge, and if such right of way affects the property of more than one person, such report must contain an assessment of damages to each person.

SEC. 3636. **Report of Commissioners.**—For good cause shown the judge may set aside the report of the commissioners and appoint three other commissioners.

SEC. 3637. **Plaintiff's Rights on Payment of Damages and Costs.**—Upon the payment of the sum assessed as damages, and all costs, to the persons to whom it is awarded, or the payment of the same to the clerk for the use of such person, plaintiff is entitled to the right of way, and may immediately proceed to occupy the same and to erect thereon such works and structures and make therein such excavations as may be necessary to the use and enjoyment of the right of way so awarded.

SEC. 3638. **Appeal.**—An appeal from the assessment of damages made by the commissioners may be taken to the District Court by any party interested at any time within ten days after the filing of the report of the commissioners. A written notice of appeal must be filed with the clerk, and served upon the opposite party.

SEC. 3639. **Appeal—Costs.**—On appeal the question of the amount of damages may be tried by the court or jury as in other cases. If the appellant recovers damages exceeding the amount awarded by the commissioners, the opposite party must pay the costs of appeal, otherwise the appellant.

SEC. 3640. **Costs.**—All costs and expenses of the proceedings under the provisions of this Chapter, except as provided in the next preceding Section, must be paid by the plaintiff or party making the application. The judge may, if the right of way asked for is denied, allow the opposite party a reasonable counsel fee.

SEC. 3641. **Appeal to the Supreme Court.**—An appeal to the Supreme Court may be taken by either party, as in other cases.

Political Code, 1895, p. 307.

SEC. 494. **Statute of Limitations.**—No action for the recovery of mining claims (lode claims excepted), or for the recovery of possession thereof, shall be maintained, unless it appears that the plaintiff or his assigns was seized or possessed of such mining claims within one year before the commencement of such action. [Code of Civil Procedure, 1895, p. 785.]

SEC. 1321. **Customs as Proof.**—In actions respecting mining claims, proof must be admitted of the customs, usages, or regulations established and in force at the bar or diggings embracing such claim, and such customs, usages, or regulations, when not in conflict with the

laws of this State or the United States, must govern the decision of the action.

SEC. 1322. **Patent Application—Possession.**—In an action brought to determine the respective rights of claimants to the possession of a mining claim or quartz lode, under the provisions of the Acts of Congress of the United States, it is immaterial which party is in possession, and it is sufficient to confer jurisdiction upon the court if it appears from the pleadings that the application for a patent has been made, and an adverse claim thereto filed and allowed in the proper land office; and the verdict or decision must find which party is entitled to the possession of the premises in dispute.

Code of Civil Procedure, 1895, p. 853.

See Code of 1895, Index, p. 2068, for references to "mines," and "mines and mining," and "mining claims."

For statutes relating to Easements, see Civil Code, 1895, Sections 1250 to 1260, pp. 594 and 595.

NEVADA.

Certain County Recorders.

CHAP. LXXII.—*An Act to provide for the better preservation of the Mining Records in certain Mining Districts in this State.*

The people, &c., do enact as follows:

SECTION 1.—**District Mining Recorder.**—In every mining district in this State in which the seat of government of any county is situated, the county recorder of said county shall be *ex-officio* District Mining Recorder, subject, in the discharge of his duties, to such rules, regulations, and compensation, as may be now in force or hereafter prescribed by the mining laws of the mining districts respectively to which this Act is applicable. He shall, as such *ex-officio* Mining Recorder, be responsible on his official bond for the faithful performance of the duties of his office, and the correct and safe keeping of all the records thereof.

SEC. 2.—**Take Effect.**—This act shall take effect and be in force from and after the first day of August, A. D. 1880.

Approved March 6, 1879.

[Laws of 1879, p. 80.]

An Act in Relation to the Sale of Certain Lands Granted by the United States to the State of Nevada.

The People do enact as follows:

SECTION 1.—All timber and mountainous grazing lands hereafter selected by and listed to the State of Nevada, under any grant made by the United States to this State, shall be sold, reserving the minerals therein contained, and the right to dispose of mining claims on such timber and mountainous grazing lands in the manner prescribed by the laws of Congress in relation to the disposal of mineral lands and mining claims, and such reservation and right of disposal shall be expressed in all patents hereafter granted and issued by the State for such timber and mountainous grazing lands to purchasers thereof from the State.

SEC. 2.—When any minerals shall be discovered on any timber and mountainous grazing lands sold and patented by the State, the State hereby reserves and shall have the right to convey mining claims thereon, in the same manner and of the same amount in any one claim as is now the law and practice of the United States, and the right of way over any such timber and mountainous grazing lands, to and from such mining claims, is hereby reserved, and shall be granted to the grantee of any such mining claim.

SEC. 3.—All acts and parts of acts, so far as in conflict with the provisions of this act, are hereby repealed.

Approved March 1, 1883.

[Laws of 1883. p. 103.]

For law for Lien to Miners, see laws of 1881, p. 49.

Preservation of the Mining Records.

SECTION 1. **Duplicate Copy.**—It shall be the duty of each and every mining recorder of the several mining districts of the State to require all persons locating and recording a mining claim to make a duplicate copy of each and every mining notice, which copy the said mining recorder shall carefully compare with the original, and mark "Duplicate," on its face or margin, and he shall immediately deposit with or transmit the same to the County Recorders of the respective counties in which said mining district may be located.

SEC. 2. **District Recorder's Fee.**—The said district mining recorders, at the time of comparing said duplicate notices with the original, shall collect from the locators of said mining claims the sum of one dollar for each and every notice compared, which sum he shall transmit, together with the said duplicate notices, to the County Recorders of the respective counties in which said mining claims shall be located.

SEC. 3. **Forwarding Copies.**—Whenever, owing to the distance of the mining district from the county seat, it becomes inconvenient for the district mining recorder to personally deposit the duplicate copy with the County Recorder, then in that case he may forward the same by mail or express, or such other manner as will insure safe transit and delivery to the County Recorder.

SEC. 4. **County Recorder's Fee.**—The County Recorders of the several counties shall receive for their services for recording each of said duplicate notices the said sum of one dollar, mentioned in section two of this act.

SEC. 5. **Evidence.**—The record of the duplicate copies in the office of the County Recorder, as herein provided, shall be received in evidence, and have the same force and effect in all courts of the State as the original mining district records.

SEC. 6. **Fine for Misdemeanor.**—Any person neglecting or refusing to comply with the provisions of this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding five hundred dollars, or by imprisonment in the county jail not exceeding six months, or by such fine and imprisonment.

SEC. 7. **Repeal.**—All acts and parts of acts in conflict with this act are hereby repealed.

Approved February 14, 1885, page 27.

An Act to Encourage Mining.

SECTION 1.—**Mineral Lands.**—The several grants made by the United States to the State of Nevada, reserved the mineral lands. Sales of such lands made by the State were made subject to such reservation. Any citizen of the United States, or person having declared his intention to become such, may enter upon any mineral land in this State, notwithstanding the State's selection, and explore for gold, silver, copper, lead, cinnabar, or other valuable minerals, and upon the discovery of such valuable mineral, may work and mine the same in pursuance of the local rules and regulations of the miners, and the laws of the United States; *provided*, that after a person who has

purchased land from the State has made valuable improvements thereon, such improvements shall not be taken or injured without full compensation. But such improvement may be condemned for the uses and purposes of mining in like manner as private property is by law condemned and taken for public use. Mining for gold, silver, copper, lead, cinnabar, and other valuable mineral, is the paramount interest of this State, and is hereby declared to be a public use.

SEC. 2.—**Minerals Excluded.**—Every contract, patent, or deed hereafter made by this State, or the authorized agents thereof, shall contain a provision expressly reserving all mines of gold, silver, copper, lead, cinnabar and other valuable minerals that may exist in such land, and the State, for itself and its grantees, hereby disclaims any interest in mineral lands heretofore or hereafter selected by the State on account of any grant from the United States. All persons desiring titles to mines upon lands which have been selected by the State, must obtain such title from the United States under the laws of Congress, notwithstanding such selection.

* * * * * * *

Approved March 3, 1887.
Laws of 1887. Page 102.

An Act for the Better Preservation of Titles to Mining Claims.

SECTION 1.—**Co-owners.**—Upon the failure of any one of the several co-owners of a mining claim to contribute his portion of the expenditures required by law, the co-owners who have performed the labor or made the improvements, and who have given such delinquent co-owner the requisite notice, either personally, in writing, or by publication in a newspaper, shall within thirty days after the expiration of the period required by law to vest the interest of such delinquent co-owner in the co-owners who have made the required expenditures, have recorded in the office of the County Recorder of the county wherein such mining claim is situated, a copy of the notice in writing, if the same shall have been personally served, with an affidavit of such service, or, if the same shall have been given by publication, then a copy of the printed notice, with the affidavit of the newspaper publisher or his clerk, that the same was published ninety days, together with the affidavit of the party signing the notice, to the effect that one or more of the co-owners named in said notice have neither paid their share of the expenditures, nor made or performed their share of the improvements or labor. And such record, or a copy thereof, duly certified by the Recorder, shall be *prima facie* evidence of the facts therein stated.

SEC. 2.—**Affidavit.**—Within thirty days after the performance of labor or making of improvements, required by law to be annually performed or made, upon any lode or mining claim, the person in whose behalf such labor was performed, or improvements made, or some one in his behalf, shall make before and record with the Mining Recorder of the district wherein such claim is situated, an affidavit setting forth the amount of money expended, or value of labor or improvements made, or both, the character of expenditures, or labor or improve-

ments, a description of the claim, or part of claim affected by such expenditures, or labor or improvements, for what year, and the names of the owners or claimants of said claim at whose expense the same was made or performed. Such affidavit, or a copy thereof, duly certified by the Recorder, shall be *prima facie* evidence of the performance of such labor, or the making of such improvements, or both. For taking and recording the affidavit herein required, the Mining Recorder shall receive a fee of one dollar.

SEC. 3.—**Notice.**—The instruments and records mentioned in sections one and two shall be deemed to impart to subsequent purchasers and incumbrancers, and to all other persons whomsoever, notice of the contents thereof.

Approved March 5, 1887.

Laws of 1887. Page 136.

An Act to amend Sec. 2 of an Act entitled "An Act to encourage mining." Approved March 3, 1887.

SECTION 1. **Reservation of Mines.**—Section two of the above entitled Act is hereby amended, so as to read as follows:

Sec. two. Every contract, patent or deed hereafter made by this State, or the authorized agents thereof, shall contain a provision expressly reserving all mines of gold, silver, copper, lead, cinnabar, and other valuable minerals that may exist in such land, and the State, for itself and its grantees, hereby disclaims any interest in mineral lands heretofore or hereafter selected by the State on account of any grant from the United States. All persons desiring titles to mines upon lands which have been selected by the State must obtain such title from the United States under the laws of Congress, notwithstanding such selection.

Approved March 5, 1897.

Session Laws, 1897, page 36.

An Act to amend Sec. 4 and 5 of an Act entitled "An Act to provide for the better preservation of the mining records of this State, and to repeal all other Acts in conflict with this Act." Approved Feb. 14, 1885.

SECTION 1. **Recording Fee.**—Section four of the above entitled Act is hereby amended so as to read as follows:

Section four. The County Recorders of the several counties shall receive for their services for recording each of said duplicate notices mentioned in section two of this Act, the sum of one dollar; provided, that in case the location is made outside of any organized mining district, or in the absence of a mining recorder in any organized district, then the person or persons making such location shall within ninety days after making such location transmit a duplicate copy of such notice to the Recorder of the county in which the location is made, and the Recorder shall record the same for a fee of one dollar.

SEC. 2. **Evidence.**—Section five of the above entitled Act is hereby amended so as to read as follows:

Section five. The record of any original or duplicate notice of the location of a mining claim in the office of the County Recorder, as herein provided, shall be received in evidence, and have the same force and effect in the Courts of the State, as the original mining district records.

Approved March 10, 1897.

Session Laws, 1897, page 77.

An Act relating to the location, relocation, manner of recording lode and placer claims, mill sites, tunnel rights, amount of work necessary to hold possession of mining claims and the rights of co-owners therein.

SECTION 1. **Lode Claims—How Located.**—Any person, a citizen of the United States, or one who has declared his intention to become such, who discovers a vein or lode may locate a claim upon such vein or lode by defining the boundaries of the claim in the manner hereinafter described, and by posting a notice of such location at the point of discovery, which notice must contain:

First—The name of the lode or claim.

Second—The name of the locator or locators.

Third—The date of the location.

Fourth—The number of linear feet claimed in length along the course of the vein, each way from the point of discovery, with the width on each side of the centre of the vein, and the general course of the vein or lode as near as may be.

SEC. 2. **Locations—How Evidenced.**—Before the expiration of ninety days from the posting of such notice upon the claim, the locator must sink a discovery shaft upon the claim located to the depth of at least ten feet from the lowest part of the rim of such shaft at the surface, or deeper if necessary to show by such work a lode deposit of mineral in place.

A cut, or crosscut, or tunnel, which cuts the lode at a depth of ten feet, or an open cut of at least ten feet in length along the lode from the point where the lode may be in any manner discovered, is equivalent to a discovery shaft. The locator must define the boundaries of his claim by marking a tree or rock in place, or by setting a post or stone, one at each corner, and one at the center of each side line. When a post is used, it must be at least four inches square by four feet six inches in length, set one foot in the ground, with a mound of stone or earth four feet in diameter by two feet in height around the post. When it is practically impossible, on account of bedrock or precipitous ground, to sink such posts, they may be placed in a pile of stones, or where the proper placing of such posts or monuments of stone is impracticable or dangerous to life or limb, it shall be lawful to place such post or monument of stone at the nearest point, properly marked to designate its right place. When a stone is used, not a rock in place, it must be at least six inches square and eighteen inches in length, set two-thirds of its length in the ground, which trees, stakes or monuments must be so marked as to designate the corners of the claim located.

SEC. 3. **Record of Location.**—Within ninety days of the date of

posting the location notice upon the claim, the locator shall record his claim with the mining district recorder and the county recorder of the mining district or county in which such claim is situated by a location certificate, which must contain: 1st, the name of the lode or vein; 2d, the name of the locator or locators; 3d, the date of the location, and such description of the location of said claim, with reference to some natural object or permanent monument, as will identify the claim; 4th, the number of linear feet claimed in length along the course of the vein each way from the point of discovery, with a width on each side of the center of the vein, and the general course of the lode or vein as near as may be; 5th, the dimensions and location of the discovery shaft, or its equivalent, sunk upon the claim; 6th, the location and description of each corner, with the markings thereon. Any record of the location of a lode mining claim which shall not contain all the requirements named in this section shall be void. All records of lode or placer mining claims, mill sites or tunnel rights heretofore made by any recorder of any mining district, or any county recorder, are hereby declared to be valid, and to have the same force and effect as records made in pursuance of the provisions of this Act. And any such record, or copy thereof, duly verified by a mining recorder, or duly certified by a county recorder, shall be *prima facie* evidence of the facts therein stated.

SEC. 4. **Extent of Claim.**—The location or record of any vein or lode claim shall be construed to include all surface ground within the surface lines thereof, and all lodes and ledges throughout their entire depth, the top or apex of which lies inside of such lines extended downward, vertically with all parts of such lodes or veins as continue to dip beyond the side lines of the claim, but shall not include any portion of such lodes, veins, or ledges beyond the end lines of the claim, or the end lines continued, whether by dip or otherwise, or beyond the side lines in any other manner than by the dip of the lode.

SEC. 5. **Vein, how Followed.**—If the top or apex of the lode in its longitudinal course extends beyond the exterior lines of the claim at any point on the surface, or as extended vertically downward, such lode may not be followed in its longitudinal course where it is intersected by the exterior lines.

SEC. 6 **Relocations, how Made.**—If at any time the locator of any mining claim heretofore or hereafter located, or his assigns, shall apprehend that his original certificate was defective, erroneous, or that the requirements of the law had not been complied with before filing; or shall be desirous of changing his surface boundaries, or of taking in any part of an overlapping claim which has been abandoned; or in case the original certificate was made prior to the passage of this law, and he shall be desirous of securing the benefits of this Act, such locator or his assigns may file an additional certificate, subject to the provisions of this Act; provided, that such relocation does not interfere with the existing rights of others at the time of such relocation, and no such relocation or the record thereof shall preclude the claimant or claimants from proving any such titles as he or they may have held under previous location.

SEC. 7. **Relocations of Abandoned Lode Claims.**—The relocation of abandoned lode claims shall be by sinking a new discovery

shaft, and fixing new boundaries, in the same manner as if it were the location of a new claim; or the relocator may sink the original discovery shaft ten feet deeper than it was at the time of abandonment, in which case the record must give the depth and dimensions of the original discovery shaft at the date of such relocation, and erect new or adopt the old boundaries, renewing the posts or monuments if removed or destroyed. In either case a new location stake shall be erected. In any case whether the whole or part of an abandoned claim is taken, the record may state that the whole or any part of the new location is located as abandoned property. If it is not known to the relocator that his location is on an abandoned claim, then the provisions of this section do not apply.

SEC. 8. **Survey of Claim.**—Where a locator, or his assigns, has the boundaries and corners of his claim established by a United States deputy mineral surveyor, or a licensed surveyor of this State, and his claim connected with a corner of the public or minor surveys of an established initial point, and incorporates into the record of the claim the field notes of such survey, and attaches to and files with such location certificate a certificate of the surveyor, setting forth: First, that said survey was actually made by him, giving the date thereof; second, the name of the claim surveyed and the location thereof; third, that the description incorporated in the declaratory statement is sufficient to identify. Such survey and certificate becomes a part of the record, and such record is *prima facie* evidence of the facts therein contained.

SEC. 9. **Annual Assessment.**—The amount of work done or improvements made during each year to hold possession of a mining claim, shall be that prescribed by the laws of the United States, to wit: One hundred dollars annually. In estimating the worth of labor required to be performed upon any mining claim, to hold the same under the laws of the United States, the value of a day's labor is hereby fixed at the sum of four dollars; provided however, that in the sense of this statute eight hours of labor actually performed upon the mining claim shall constitute a day's labor.

SEC. 10. **Affidavit of Work Done.**—Within sixty days after the performance of labor or making of improvements, required by law to be annually performed or made upon any mining claim, the person in whose behalf such labor was performed, or improvements made, or some one in his behalf, shall make and have recorded by the mining district recorder or the County Recorder in books kept for that purpose in the mining district or county in which such mining claim is situated, an affidavit setting forth the amount of money expended, or value of labor or improvements made, or both, the character of expenditures or labor or improvements, a description of the claim or part of the claim affected by such expenditures, or labor or improvements, for what year, and the name of the owner or claimant of said claim, at whose expense the same was made or performed. Such affidavit, or a copy thereof, duly certified by the County Recorder, shall be *prima facie* evidence of the performance of such labor or the making of such improvements, or both.

SEC. 11. **Rights of Co-owners.**—Whenever a co owner or co-owners shall give to a delinquent co-owner or co-owners the notice in writing or notice by publication provided for in Section 2324, Revised

Statutes of the United States, an affidavit of the person giving such notice, stating the time, place, manner of service, and by whom and upon whom such service was made, shall be attached to a true copy of such notice, and such notice and affidavit must be recorded by the mining district recorder or County Recorder, in books kept for that purpose, in the mining district or county in which the mining claim is situated; within ninety days after the giving of such notice, or if such notice is given by publication in a newspaper, there shall be attached to a printed copy of such notice an affidavit of the printer or his foreman or principal clerk of such paper, stating the date of the first, last, and each insertion of such notice therein, and when and where the newspaper was published during that time, and the name of such newspaper. Such affidavit and notice shall be recorded as aforesaid within one hundred and eighty days after the first publication thereof. The original of such notice and affidavits, or a duly certified copy of the record thereof, shall be evidence that the delinquent mentioned in section 2324 has failed or refused to contribute his proportion of the expenditure required by that section and of the service or publication of said notice; provided, the writing or affidavit hereinafter provided for is not of record. If such delinquent shall, within the ninety days required by section 2324 aforesaid, contribute to his co-owner or co-owners his proportion of such expenditures, such co-owner or co-owners shall sign and deliver to the delinquent or delinquents a writing, stating that the delinquent or delinquents by name has within the time required by Section 2324 of the Revised Statutes of the United States contributed his share for the year ——, upon the —— mine, and further stating therein the district, county and State where the same is situate, and the book and page where the location notice is recorded; such writing shall be recorded in the office of the County Recorder of said county. If such co owner or co-owners shall fail to sign and deliver such writing to the delinquent or delinquents within twenty days after such contribution, the co owner or co-owners so failing as aforesaid shall be liable to a penalty of one hundred dollars, to be recovered by any person for the use of the delinquent or delinquents in any court of competent jurisdiction. If such co-owner or co-owners fail to deliver such writing within said twenty days, then the delinquent, with two disinterested persons having personal knowledge of such contribut on, may make affidavit setting forth in what manner, the amount of, to whom and upon what mine, such contribution was made. Such affidavit, or record thereof in the office of the County Recorder of the county in which said mine is situate, shall be *prima facie* evidence of such contribution.

SEC. 12. **One Claim—Void Location.**—No notice of location of a lode claim shall claim more than one location, whether the location be made by one or several persons. And if such notice purport to claim more than one location, it shall be absolutely void, except as to the first location therein described. And if they are described together, or so that it cannot be told which location is first described, the notice of location shall be void as to all.

SEC. 13. **Placer Claims—How Located.**—The locator of a placer claim snall locate his claim in the following manner:

First—By posting a notice of location thereon containing the name

of the claim, the name of the locator or locators, the date of location and the number of feet or acres claimed.

Second—By marking the boundaries of his claim with a post, tree or rock in place, or by setting a post or stone, one at each angle of the claim located. When a post is used, it must be at least four inches square by four feet six inches in length, set one foot in the ground, with a mound of stone or earth four feet in diameter by two feet in height around the post. Where it is practically impossible on account of bedrock or precipitous ground to sink such posts, they may be placed in a pile of stones. When a stone is used not rock in place, it must be at least six inches square and eighteen in length, set two-thirds of its length in the ground, which tree, stake or monument must be so marked as to designate the corner of the claim located; provided, that if the United States survey has been extended over said land, then the claim may be taken by legal subdivision, and no other monument, except that upon which the location notice is posted, shall be required than the United States corners.

SEC. 14. **Record of Placer Claims.**—The locator of any placer claim shall, within sixty days from the date of the location of such claim have the same recorded by the mining district recorder and the County Recorder, in books kept for that purpose, in the mining district or county in which such claim is situated, which record must contain: First, the name of the claim, designating it as a placer claim; second, the name of the locator or locators; third, the date of such location; fourth, the number of feet or acres thus claimed; fifth, a description of the claim, with reference to some natural object or permanent monument as will identify the claim. Any record of the location of a placer mining claim which shall not contain all the requirements of this section, shall be void.

SEC. 15. **Location of Mill Sites.**—The proprietor of a vein or lode claim or mine, or the owner of a quartz mill or reduction works, may locate five acres of non-mineral land as a mill site.

SEC. 16. **Mill Sites, How Located.**—The locator of a mill site location shall locate his claim by posting a notice of location thereon, which must contain: 1st, the name of the locator or locators; 2d, the name of the vein or lode claim, or mine, of which he is the proprietor, or the name of the quartz mill or reduction works of which he is the owner; 3d, the date of the location; 4th, the number of feet or acres claimed; 5th, a description of the claim by such reference to a natural object or permanent monument as shall identify the claim or millsite. And by marking the boundaries of his claim in the same manner as provided in this Act for the marking of the boundaries of a placer mining claim, so far as the same may be applicable thereto.

SEC. 17. **Record of Mill Sites.**—The locator of a mill site claim or location shall within thirty days from the date of his location, record his location with the mining district recorder and the County Recorder of the district or county in which such location is situated by a location certificate, which must be similar in all respects to the one posted on the location.

SEC. 18. **Mill Sites—Void Locations.**—Any record of a mill site location which shall not contain the name of the locator or locators, the name of the vein or lode claim or mine of which the locator

is the proprietor, or the name of the quartz mill or reduction works of which the locator is the owner, the number of feet or acres claimed, and such description as shall identify the claim with reasonable certainty, shall be void.

SEC. 19. **Tunnel Locations—How Made.**—The locator of a tunnel right or location shall locate his tunnel right or location by posting a notice of location at the face or point of commencement of the tunnel which must contain: 1st. The name of the locator or locators. 2d. The date of the location. 3d. The proposed course or direction of the tunnel. 4th. The height and width thereof. 5th. The position and character of the boundary monuments. 6th. A description of the tunnel by such reference to a natural object or permanent monument as shall identify the claim or tunnel right.

SEC. 20. **Tunnel Lines, How Established.**—The boundary lines of the tunnel shall be established by stakes or monuments placed along such lines at an interval of not more than three hundred feet from the face or point of commencement of the tunnel to the terminus of three thousand feet therefrom. The stakes or monuments shall be of the same size and character as those provided for lode or placer claims in this Act.

SEC 21. **Record of Tunnel Locations.**—The locator of a tunnel right or location shall within sixty days from the date of the location record his location with the mining district recorder and the County Recorder of the county or district in which such location is situated, which must be similar in all respects to the one posted on the location. Any record of a tunnel right or location which shall not contain all the requirements named in this section, shall be void.

SEC. 22. **Blind Lodes, How Located.**—All blind lodes, or veins or lodes not previously known to exist, discovered in a tunnel run for the development of a vein or lode, or for the discovery of mines, and within three thousand feet from the face of such tunnel, shall be located upon the surface and held in like manner as other lode claims under the provisions of this Act.

SEC. 23. **Application of Provisions of Act.**—The provisions of this Act shall be construed as equally applicable to all classes of locations, except where the requirement as to any one class is manifestly inapplicable to any other class or classes.

SEC. 24. **Repeal.**—All Acts or parts of Acts in conflict with this Act are hereby repealed.

Approved March 16, 1897.

Session Laws, 1897, page 103.

Amendment

An Act Amendatory of Act approved March 16, 1897.

SECTION 1. Section two of the above named Act is hereby amended so as to read as follows:

Section two. **Discovery Shaft—Monument.**—Before the expiration of one hundred and twenty days from the posting of the notice of location, the locator shall sink a discovery shaft upon the claim to a depth of at least ten feet from the lowest part of the rim of such shaft at the surface, or deeper if necessary to show by such work a

lode or deposit of mineral in place. A cut or crosscut, or tunnel, which cuts the lode at a depth of ten feet or more, or an open cut of at least ten feet in length along the lode from the point where the lode may be in any manner discovered, shall be equivalent to a discovery shaft. At the location point, and at each corner and angle of the claim, he shall distinctly mark a tree or rock in place, or shall set a stone, which shall be at least six inches wide and eighteen inches long, firmly in a mound or in the earth, so that at least six inches in height of said stone shall be plainly visible from all sides, or shall substantially build a monument which shall rise at least three feet above the surface, or shall erect a post at least four inches square or four inches in diameter, which must be firmly set in the ground, or in a mound of earth or rock, and must rise at least three feet above the surface. The tree, rock, stone, post or monument at each corner shall be so marked by letters, figures or otherwise, as to indicate its purpose. The posting of location notice and descriptive memoranda of corners (if that method of marking be used) shall be by conspicuously displaying the same, where practicable, and in other cases by such posting as is in accord with the usage and custom of miners. Where it is impracticable or dangerous to life or limb to mark a tree or rock, or set a stone, or erect a post or monument precisely upon a corner or angle, then the marking of that corner or angle by means of tree, or rock, or stone, or post, or monument, may be done at the nearest practicable point, in such manner as to indicate the right place.

SEC. 2. Section thirteen of said Act is hereby amended so as to read as follows:

Section thirteen. Placer Claims.—The location of a placer claim shall be made in the following manner: By posting thereon, upon a tree, rock in place, stone, post, or monument, a notice of location, containing the name of the claim, name of locator or locators, date of location, and number of feet or acres claimed, and by marking the boundaries and the location point in the same manner and by the same means as required by the laws of this State for marking the boundaries of lode claim locations; *provided*, that where the United States survey has been extended over the land embraced in the location, the claim may be taken by legal subdivisions, and, except the marking of the location point as hereinbefore prescribed, no other markings than those of said survey shall be required.

SEC. 3. Section fourteen of said Act is hereby amended so as to read as follows:

Section fourteen. Labor—Certificate.—Within ninety days after the posting of the notice of location of a placer claim, the locator shall perform not less than twenty dollars' worth of labor upon the claim for the development thereof, and shall have recorded by the Mining District Recorder and the County Recorder of the district and county in which the claim is situated, a certificate which shall state the name of the claim, designating it as a placer claim, name of locator or locators, date of location, number of feet or acres claimed, a description of the claim with regard to some natural object or permanent monument, so as to identify the claim, and the kind and amount of work done by him as herein required, and the place on the claim where said work was done. This certificate, or the record thereof, or a duly certified

copy of said record, shall be *prima facie* evidence of the recitals therein. But if such certificate do not state all the facts herein required to be stated, it shall be void.

SEC. 4. Two new sections are hereby added to said Act which shall be known as section twenty-four and section twenty-five, and section twenty-four of said Act shall be known as and numbered section twenty-six.

Section twenty-four. **Certificates.**—Certificates of location and of labor and improvements necessary to hold claims need not be sworn to, and are not required to be in any specified form, nor to state facts in any specific order; but must truly state the required facts.

Section twenty-five. **Records.**—Where there is no mining district, or where a district having once existed the residence of the officers within the district, and their places of business within the district where the books are kept are not publicly known, district recording shall not be required of the locator or claim owner. But recording shall be required in the office of the County Recorder in all cases; as well where there is a district recorder as where there is none.

Approved March 14, 1899.

Session Laws of 1899, p. 93.

NEW MEXICO.

An Act to Regulate the Manner of Locating Mining Claims, and for Other Purposes.

Be it enacted by the Legislative Assembly of the Territory of New Mexico:

SECTION 1.—**Locations.**—That any person or persons desiring to locate a mining claim upon a vein or lode of quartz, or other rock in place, bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposit, must distinctly mark the location on the ground, so that its boundaries may be readily traced; and post in some conspicuous place on such location a notice in writing, stating thereon the name or names of the locator or locators, his or their intention to locate the mining claim, giving a description thereof by reference to some natural object or permanent monument as will identify the claims; and also, within three months after posting such notice, cause to be recorded a copy thereof in the office of the recorder of the county in which the notice is posted; and *Provided*, No other record of such notice shall be necessary.

SEC. 2.—**Record-Books and Fees.**—In order to carry out the intent of the preceding section, it is hereby made the duty of the probate judges of the several counties of this Territory, and they are hereby required to provide, at the expense of their respective counties, such book or books as may be necessary and suitable, in which to enter the record hereinbefore provided for. The fees for recording such notices shall be ten cents for every one hundred words.

SEC. 3.—**Value of Labor.**—That in estimating the worth of labor required to be performed upon any mining claims, to hold the same by the laws of the United States in the regulation of mines, the value of a day's labor is hereby fixed at the sum of four dollars: *Provided, however*, That in the sense of this statute, eight hours of labor actually performed upon the mining claim shall constitute a day's labor.

SEC. 4.—**Prior Locations Confirmed.**—All locations heretofore made in good faith, to which there shall be no adverse claims, the certificates of which locations have been or may be filed for record, and recorded in the recorder's office of the county where the location is made within six months after the passage of this act, are hereby confirmed and made valid. But where there may appear to be any such adverse claims, the said location shall be held to be the property of the person having the superior title or claim, according to the laws in force at the time of the making of the said locations.

SEC. 5.—**Ejectment.**—An action of ejectment will lie for the recovery of the possession of a mining claim, as well also of any real estate, where the party suing has been wrongfully ousted from the possession thereof, and the possession wrongfully detained.

SEC. 6.—**Repeal of Prior Acts.**—That "An act concerning mining claims," approved January 18, 1865, and an act amendatory thereof, approved January 3, 1866; also, an act entitled "An act to amend certain acts concerning mining claims in the Territory of New

Mexico," approved January 1, 1872, be, and the same are hereby, repealed: *Provided*, That no locations completed or commenced under said acts, shall be invalidated or in any wise affected by such repeal.

SEC. 7.—**Becomes Effective.**—That this act shall take effect and be in full force from and after its passage.

Approved January 11, 1876.

[Laws of New Mexico, 1875–6, p. 116.]

An Act entitled an Act relating to the Locating and Re-locating of Mining Claims, and for other purposes.

SECTION 1.—**Discovery Shaft.**—That the locator or locators of any mining claim, located after this act shall take effect, shall, within ninety days from the date of taking possession of the same, sink a discovery shaft upon such claim to a depth of at least ten feet from the lowest part of the rim of such shaft at the surface, exposing mineral in place, or shall drive a tunnel, adit, or open cut upon such claim to at least ten feet below the surface, exposing mineral in place.

SEC. 2.—**Location Marks.**—The surface boundaries of all mining claims hereafter located, shall be marked by four substantial posts, or four substantial monuments of stone, set at each corner of such claim. Such posts or monuments of stone shall each be plainly marked so as to indicate the direction of such claim from each monument of stone or posts.

SEC. 3.—**Re-location.**—The re-location of any mining ground, which is subject to re-location, shall be made in the same way as an original location is required by law to be made, except the re-locator may either sink a new shaft upon the ground re-located to the depth of at least ten feet from the lowest part of the rim of such shaft at the surface, exposing mineral in place, or drive a new tunnel, adit, or open cut upon such ground at least ten feet below the surface, exposing mineral in place; or the re-locator may sink the original discovery shaft ten feet deeper than it is at the time of re-location, or drive the original tunnel, adit or open cut upon such claim ten feet further.

SEC. 4.—**Amended or Additional Location.**—If at any time the owner of any mining claim heretofore or hereafter located, or his assigns, shall apprehend that the original notice of location is defective, erroneous, or the requirements of law has not been complied with before filing; or shall be desirous of changing his surface boundaries, or to take in any part of an overlapping claim which has been abandoned; or in case the original notice of location was made prior to the passage of this act, and the owner shall be desirous of obtaining the benefits of this act, such owner may file in the office where notices of location are by law required to be filed, an amended or additional notice of location, subject to the provisions of this act; *provided*, that such additional or amended notice of location does not interfere with the existing right of others at the time of filing such notice; and no such amended or additional location, or record thereof, shall preclude the claimant or his assigns from proving any such title as he or they may have held under the previous location.

SEC. 5.—**Misdemeanors.**—Any person who shall take down, remove, alter, or destroy any stake, post, monument or notice of location upon any mining claim, without the consent of the owner or

owners thereof, shall be deemed guilty of a misdemeauor, and on conviction, shall be punished by a fine not exceeding one hundred dollars, or by imprisonment in the county jail not exceeding six months, or by both such fine and imprisonment.

SEC. 6.—**Abandonment.**—In addition to the provisions of law now in force in respect to the abandonment of mining claims, they may be abandoned in the following manner: The owner or owners of any mining claim wishing to abandon the same, may sign and acknowledge in the same manner provided by law for the acknowledgment of deeds, and file for record in the office of the county recorder, a certificate describing the same, stating when and by whom located, the name of the claim, the book and page where the notice of location of such claim is recorded, that he or they give up or abandon such claim, and that the same is open and subject to re-location. Upon the filing of such certificate, the mining claim therein described shall be considered abandoned and open to re-location as if the same had never been located, and the owner or owners thereof forever estopped from claiming any right or interest therein under the location mentioned in said certificate; *Provided*, that this provision for abandonment shall not apply to any claim or location upon which any mortgage, lien, or other incumbrance exists.

SEC. 7.—**Expenditure.**—When the owner or owners of any mining claim or claims now located or which may hereafter be located, upon which there shall exist any mortgage, miner's or mechanic's lien, or other incumbrance of any kind, which may be hereafter made or incurred, shall refuse, neglect or fail, up to the first day of December of any year, to perform thereon the annual labor, or make thereon the annual expenditures required by law to be made, in order to prevent the same from becoming open to re-location; in such case the holder or owner of such mortgage, lien or incumbrance, may, upon the first day of December of such year, or any time thereafter, before any such mining claim or claims shall have been re-located, enter with his or their workmen or employees upon the same, and perform, or cause to be performed, the one hundred dollars worth of labor, or make the one hundred dollars worth of improvements upon such claim or claims as by law required to be done; that such work shall be done and improvements made in a workmanlike manner; that for the purpose of performing or causing to be performed, such labor and improvements, the holder or holders of such mortgage, miner's or mechanic's lien, or other incumbrance, shall be considered the agent or the agents of the owner or owners of such mining claim or claims; that that owner or owners of such mining claim or claims, or any other person or persons, shall not in any manner prevent, obstruct, hinder or delay the performance of any labor, or the making of such improvements, and may be restrained from so doing by injunction; that upon the completion of the one hundred dollars' worth of labor or improvements by the holder or holders of any mortgage, miner's or mechanic's lien, or other incumbrance as aforesaid, upon any mining claim, as herein provided, all sum or sums of money expended by him or them shall be and become a lien upon the said mining claim or claims, and from the date of the completion of the same, draw the same rate of interest as the principal sum of such mortgage, miner's

or mechanic's lien, or other incumbrance, and may be foreclosed according to law.

SEC. 8.—**Misdemeanors.**—Any person or persons who shall prevent, obstruct, hinder or delay the performance of the labor, or the making of the improvements mentioned in the last preceding section of this act, shall be deemed guilty of a misdemeanor, and upon conviction, shall be punished by a fine of not less than one hundred dollars, or over five hundred dollars, or by imprisonment in the county jail for a period of not less than six months, nor more than one year, or by both fine and imprisonment.

SEC. 9.—**Take Effect.**—This Act shall take effect and be in force from and after the first day of April, A. D. 1889, and all acts and parts of acts in conflict herewith are hereby repealed.

Approved February 5, 1889.

Laws of 1888–89. p. 42.

An Act in Relation to the Location of Mining Claims.

SECTION 1.—**Shaft or Tunnel—Exposure of Mineral.**—That on and after the first day of April, 1884, in addition to the present requirement of law in regard to the location of mining claims, the locator of a mining claim shall, within ninety days from the date of taking possession of the same and previous to placing the same upon record in the county clerk's office, sink a discovery shaft upon such claim to the depth of at least ten feet from the lowest part of the rim of such shaft at the surface, or shall drive a tunnel, open cut or adit upon such claim, exposing mineral in place at least ten feet below the surface.

SEC. 2.—**Repeal.**—All laws and parts of laws in conflict with this act are hereby repealed.

Approved March 25, 1884.

Sessions Laws, 1884, p. 135.

An Act in Relation to Mining Claims.

SECTION 1. **Failure to Do Annual Work.**—Whenever the locator or locators of any mining claim in this Territory, located under the laws of the United States and of this Territory, shall fail or neglect to do and to perform, or cause to be done and performed, upon such mining claim, the amount and character of work necessary to be done and performed thereon as required by section 1 of Chapter XXV. of the Acts of the 28th Session of the Legislative Assembly of the Territory of New Mexico, within the ninety days from the date of such location as provided in said section, such locator, or locators, and his or her assigns, shall forfeit all right to such mining claim, and shall henceforth for a period of ninety days from and after the expiration of such ninety days, be debarred and prohibited from relocating or procuring, or becoming interested, directly or indirectly, except as a bona fide purchaser for value in the relocation of such claim, or the location of any other claim which will include any portion of the ground which was included in such forfeited claim.

SEC. 2. **Forfeited Claims.**—Whenever the locator or locators, or his or their assigns, of any lode or placer mining claim in this Territory, located under the laws of the United States and of this Territory,

shall fail to do or cause to be done, the amount of the assessment work required by law to be done thereon, within the time prescribed by law, such claim shall be considered forfeited and abandoned, and such locator or locators, and his or their assigns, shall thenceforth for the period of ninety days from and after the expiration of the time within which such work should have been done, be debarred and prohibited from relocating such claim, or becoming interested directly or indirectly, except as a bona fide purchaser for value, in the location or relocation of any claim which shall include the land covered by such forfeited claim, or any part thereof. And the subsequent locator of such claim, or of any claim including the whole or any part of the land covered by such forfeited claim, shall not be entitled to credit for any work that may have been done thereon before the time of such forfeiture, nor shall the former owner of any such forfeited claim have any right to compensation therefor.

SEC. 3. Altering or Defacing Mining Notices.—Any person or persons, or the manager, officer, agent or employe of any person, firm, corporation or association, who shall in any manner alter, deface or change the location notice of any mining claim in this Territory located under the laws of the United States and of this Territory, or any local regulations in force in the district wherein such claim is situated, thereby in any manner affecting the rights of any person, firm or corporation, to such claim or location, or the land covered thereby, shall be deemed guilty of a misdemeanor, and upon conviction thereof before any court of competent jurisdiction, shall be fined in a sum not less than one hundred dollars, nor more than five hundred dollars, or imprisoned in the county jail for not less than sixty days, nor more than one year, or by both such fine and imprisonment, in the discretion of the court trying the case.

Nothing herein contained shall affect the rights of such locator or locators, and his or their assigns, to correct errors in such notice and file amended location notices as provided in Section 4 of said Chapter XXV. of the Session Laws of 1889, and the laws of the United States; *provided*, Such change shall not affect or change the date of such location notice, or affect the rights of any other person.

SEC. 4. Illegal Relocations.—Any person or persons, or the manager, officer, agent or employe of any person, firm or corporation, who shall, either by himself, or acting in collusion with others, relocate or attempt to relocate, or procure, or become interested, directly or indirectly in, and the relocation of, or in any manner attempt to hold possession of, any forfeited mining claim, contrary to the provisions of this Act, or who shall locate or in any manner become interested in the location of any other claim which shall include the whole, or any portion, of the ground covered by such forfeited claim, contrary to this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof before any court of competent jurisdiction shall be subject to the same penalty and punishment as provided in Section 3 of this Act.

SEC. 5. Possession—Trespass.—When any person, firm or corporation shall be lawfully and peaceably in possession of any mining claim in this Territory, and shall have complied with all the requirements of law and regulations in force in the district in which said

mining claim is situated, such persons, firm, or corporation, shall be deemed to be the rightful possessor of such mining claim and of the land included therein; and any person or the officer, agent or employe of any corporation who shall by force, intimidation, fraud or stealth, or in the temporary absence of the rightful possessor enter upon such mining claim with intent to hold the same, or any part thereof against the rightful possessor, shall be considered a trespasser, and the judge of the district court for the district in which such claim is situated shall, upon the proper showing of such facts made by affidavit or by oral testimony upon a hearing ordered for that purpose, and upon the filing with the clerk of said district court of a good and sufficient bond, grant an order to show cause why a writ of injunction should not issue, enjoining and restraining such trespasser, his servants, agents, and employes, and any persons associated with him, from in any manner interfering with the rightful possessor in the possession of such claim until the final disposition of said cause.

SEC. 6. **Boundaries, How Marked.**—That Section 2 of Chapter XXV. of the Acts of the 28th Session of the Legislative Assembly of the Territory of New Mexico, be and the same is hereby amended to read as follows:

"Within one hundred and twenty days from the date of locating any mining claim within this Territory, the locator or locators thereof shall cause the surface boundaries of such claim to be plainly marked by eight substantial posts or stone monuments, each projecting at least three feet above the surface of the ground, to wit: One at each corner of said claim, and one at the center of each end and side line thereof, each of which posts or monuments shall be plainly marked so as to show the name of such claim and the direction thereof from each post or monument."

SEC. 7. **Regulations Filed by Owners of Patented Land.**—The owner or owners of lands within this Territory, the title to which has been vested by letters patent from the United States government, may make and file in the office of the county clerk of the county in which such lands are situated, such rules and regulations, not inconsistent with the laws of the United States, and of this Territory, as they may see fit, governing the location and acquisition of mining claims thereon, which rules and regulations when so filed shall be binding upon all parties, and a copy thereof duly certified by the county recorder shall be received and admitted as evidence in any suit or proceedings relating to such mining claims; such rules and regulations may be changed and supplemented from time to time by other rules and regulations filed in like manner, providing that such change shall not affect rights acquired prior thereto.

SEC. 8. **Affidavit of Work Done.**—The owner or owners of any unpatented mining claim in this Territory, located under the laws of the United States and of this Territory, shall within sixty days from and after the time within which the assessment work required by law to be done upon such claim should have been done and performed, cause to be filed with the recorder of the county in which such mining claim is situated, an affidavit setting forth the time when such work was done, and the amount, character and actual cost thereof, together with the name or names of the person or persons who performed such

work; and such affidavit when made and filed as herein provided, shall be *prima facie* evidence of the facts therein stated. The failure to make and file such affidavit as herein provided shall, in any contest, suit or proceedings touching the title to such claim, throw the burden of proof upon the owner or owners of such claim to show that such work has been done according to law.

SEC. 9. **Repeal—Take Effect.**—All laws and parts of laws in conflict with any of the provisions of this Act are hereby repealed, and this Act shall take effect and be in force from and after its passage.

Approved March 18, 1897.

Session Laws, 1897, page 125.

OREGON.

Location, Establishment, and Record of Claims.

SECTION 8. **Chinese.**—No Chinaman, not a resident of the state at the adoption of this constitution, shall ever hold any real estate or mining claim, or work any mining claim therein. The legislative assembly shall provide by law in the most effectual manner for carrying out the above provision.

SEC. 3827. **Length and Width of Lode Claims.**—Any person or company of persons establishing a claim on any quartz lead containing gold, silver, copper, tin, or lead, or a claim or a vein of cinnabar, for the purpose of mining the same, shall be allowed to have, hold, and possess the land or vein, with all its dips, spurs, and angles, for the distance of fifteen hundred feet in length and three hundred feet in width on each side of such lead or vein.

SEC. 3828. **How Established.**—To establish a valid claim, the discoverer or person wishing to establish a claim shall post a notice on the lead or vein, with name or names attached, which shall protect the claim or claims for thirty days; and before the expiration of said thirty days he or they shall cause the claim or claims to be recorded as hereinafter provided, and describing as near as may be the claim or claims, and their location; but continuous working of said claim or claims shall obviate the necessity of such record. If any claim shall not be worked for twelve consecutive months after the first day of January next following the location thereof, it shall be forfeited and considered liable to location by any person or persons, unless the owner or owners be absent on account of sickness or in the service of their country in time of war.

SEC. 3829. **Number of Claims Held and Owned.**—Any person may hold one claim by location, as hereinafter provided, upon each lead or vein, and as many by purchase as the local laws of the miners in the district where such claims are located may allow; and the discoverer of any new lead or vein not previously located upon shall be allowed one additional claim for the discovery thereof; nothing in this section shall be so construed as to allow any person not the discoverer to locate more than one claim upon any one lead or vein.

SEC. 3830. **Annual Labor.**—Every person or company of persons, after locating such claim or claims, shall, within one year next after the first day of January following the location or taking such claim or claims, work or cause to be worked the said claim to the amount of one hundred dollars for each and every claim; *Provided*, That any person or company, either joint or incorporate, owning claims or any lead or vein, shall be allowed to work upon any one claim the whole amount required as above for all the claims, and thereby be exempted from working on the rest of his or their claims in said lead or vein; *Provided further*, That when the individual, company, or corporation owning any quartz claim or claims shall file the affidavit of said owner or one of the members of the company or corporation with the county clerk of the county in which said claim is situated, to the effect that the amount of work required by this act

has been performed on such claim (or if there be more than one claim, then on each of them), together with the affidavit of two disinterested persons to the same effect, with the addition "that they are not interested directly or indirectly in said claim or claims," and such claims shall thereafter be considered as real estate, and the title therein shall be vested in such person, company, or corporation against all others, save the government of the United States; and the improvements, machinery, and buildings thereon only shall be taxed as other property.

SEC. 3831. **Duty of County Clerk.**—It shall be the duty of the county clerk of any county, upon the receipt of notice of a miners' meeting organizing a miners' district in said county, with a description of the boundaries thereof, to record the same in a book to be kept in his office as other county records, to be called a "book of record of mining claims;" and upon the petition of parties interested, he may appoint a deputy for such district, who shall reside in said district or its vicinity, and shall record all mining claims and water rights in the order in which they are presented for record, and shall transmit a copy of such record at the end of each month to the county clerk, who shall record the same in the above-mentioned book of record, for which he shall receive one dollar for each and every claim. It shall further be the duty of said county clerk to furnish a copy of this law to his said deputy, who shall keep the same in his office, open at all reasonable times for the inspection of all persons interested therein.

SEC. 3832. **Water Rights. Placers and Town Lots.**—Miners shall be empowered to make local laws in relation to the possession of water rights, the possession and working of placer claims, and the survey and sale of town lots in mining camps, subject to the laws of the United States.

SEC. 3833. **Ditches and Flumes.**—Ditches used for mining purposes and mining flumes, permanently affixed to the soil, be and the same are hereby declared real estate during the time the same shall be used for that purpose; *provided*, that whenever any person, company, or corporation, being the owner or proprietor of any such ditch, flume or water right, have or shall abandon the same, and who shall for one year thereafter cease to exercise ownership over said water right, ditch or flume, and every company, corporation, or person who shall remove from this state, with the intent or purpose to change his or their residence, and shall remain absent one year without using or exercising ownership over such water right, ditch, or flume by a legally authorized agent, shall be deemed to have lost all title, claim, or interest therein.

SEC. 3834. The laws relative to the sale and transfer of real estate, and the application of the liens of mechanics and laborers therein, be and are hereby made applicable to said ditches and flumes; *provided*, that all interests in mining claims known as placer or surface diggings may be granted, sold, and conveyed by bill of sale and delivery of possession, as in cases of the sale of personal property; *provided further*, that the bills of sale or conveyances executed on the sale of any placer or surface mining claim shall be recorded within thirty days after the date of such sale, in the office of the county clerk of the county in which such sale is made, in a book to be kept by the

county clerk for that purpose, to be called the record of conveyances of mining claims.

SEC. 3835. **Mortgages of Placer Claims.**—Mortgages of interests in placer or surface mining claims shall be executed, acknowledged, recorded, and foreclosed as mortgages of chattels.

SEC. 3836. **County Clerk's Fee.**—The county clerk shall be entitled to a fee of one dollar each for every conveyance or mortgage recorded under the provisions of this act.

An Act to Amend Section 3823, (3828?) on Page 1637, and Section 3830, on Page 1638 of Second Hill's Annotated Laws of Oregon 1892, Relating to Mining Claims.

SECTION 1. That section 2823 (3828?) on page 1637 of second Hill's annotated laws of Oregon, be and the same is hereby amended so as to read as follows:

SEC. 3828. **How Established.**—To establish a valid claim, the discoverer or person wishing to establish a claim shall post a notice on the lead or vein, with name or names attached, which shall protect the claim or claims for thirty days; and before the expiration of said thirty days, he or they shall cause the claim or claims to be recorded as hereinafter provided, and describing as near as may be the claim or claims, and their location; but continuous working of said claim or claims shall obviate the necessity of such record. If any claim shall not be worked for twelve consecutive months after the first day of January next following the location thereof, it shall be forfeited and considered liable to location by any person or persons, unless the owner or owners be absent on account of sickness or in the service of their country in time of war.

SEC. 2. That section 3830 on page 1638 of second Hill's annotated laws of Oregon, be and the same is hereby amended so as to read as follows:

SEC. 3830. **Annual Labor.**—Every person or company of persons, after locating such claim or claims, shall, within one year next after the first day of January following the location or taking such claim or claims, work or cause to be worked the said claim to the amount of one hundred dollars for each and every claim; *Provided*, That any person or company, either joint or incorporate, owning claims or any lead or vein, shall be allowed to work upon any one claim the whole amount required as above for all the claims, and thereby be exempted from working on the rest of his or their claims in said lead or vein; *Provided further*, That when the individual, company or corporation owning any quartz claim or claims shall file the affidavit of said owner or one of the members of the company or corporation with the county clerk of the county in which said claim is situated, to the effect that the amount of work required by this act has been performed on such claim (or if there be more than one claim, then on each of them), together with the affidavit of two disinterested persons to the same effect, with the addition "that they are not interested directly or indirectly in said claim or claims," and such claims shall thereafter be considered as real estate, and the title therein shall

be vested in such person, company or corporation against all others, save the government of the United States; and the improvements, machinery and buildings thereon only shall be taxed as other property. [Took effect immediately.]

Approved, February 21, 1891—Act of 1891, p. 137.

Liens on Mining Claims.

AN ACT *for Securing Liens for Laborers on Mining Claims, etc.*

Work and Materials.—SEC. 1. Every person who shall do work or furnish materials for the working or development of any mine, lode, mining claim or deposit yielding metals or minerals of any kind, or for the working or development of any such mine, lode or deposit, in search of such metals or minerals; and to all persons who shall do work or furnish materials upon any shaft, tunnel, incline, adit, drift or other excavation, designed or used for the purpose of draining or working any such mine, lode or deposit, shall have a lien upon the same to secure to him the payment of the work or labor done or materials furnished, etc.

[The claim must be filed with the county clerk within sixty days after completion of the labor or the furnishing of the material, and suit must be brought within six months.]

Approved, February 20, 1891.—Laws of 1891, page 76.

An Act Relating to Mining Claims.

SECTION 1. **Vein Locations—How Made.**—Any person, a citizen of the United States, or one who has declared his intention to become such, who discovers a vein or lode of mineral bearing rock in place upon the unappropriated public domain of the United States within this State, may locate a claim upon such vein or lode so discovered, by posting thereon a notice of such discovery and location, which said notice shall contain: First, the name of the lode or claim; second, the name or names of the locator or locators; third, the date of the location; fourth, the number of linear feet claimed along the vein or lode each way from the point of discovery, with the width on each side of the said vein or lode; fifth, the general course or strike of the vein or lode as nearly as may be, and by defining the boundaries upon the surface of each claim, so that the same may be readily traced. Such boundaries shall be marked within three days after posting of such notice by six substantial posts, projecting not less than three feet above the surface of the ground, and not less than four inches square or in diameter, or by substantial mounds of stone, or earth and stone, at least two feet in height, to wit: one such post or mound of rock at each corner and at the center ends of such claims.

SEC. 2. **Record of Locations.**—Such locator shall file for record with the recorder of conveyances, if there be one, who shall be custodian of mining records and miners' liens, otherwise with the clerk of the county wherein the said claim is situate, a copy of the notice so posted by him upon the lode or claim, within thirty days after the date of posting the same upon the claim; and shall pay a fee of one dollar for such record thereof, which said sum the said recorder or clerk shall immediately pay over to the treasurer of such county, and

shall take his receipt therefor, as in case of other county funds coming into his possession as such officer. Such officer shall immediately record such notice.

SEC. 3. **Work on Discovery Shaft.**—Before the expiration of ninety days from the date of posting the said notice of discovery upon his claim as aforesaid, the locator must sink a discovery shaft upon the claim located to a depth of at least ten feet from the lowest part of the rim of such shaft at the surface, or deeper if necessary, to show by such work a lode or vein of mineral deposit in place. A cut or cross-cut or tunnel which cuts the lode at a depth of ten feet, or an open cut at least six feet deep, four feet wide, and ten feet in length along the lode from the point where the same may be in any manner discovered, is equivalent to such discovery shaft. Such work shall not be deemed a part of the assessment work required by the revised statutes of the United States.

SEC. 4. **Abandoned Claims.**—Abandoned claims shall be deemed unappropriated mineral lands, and titles thereto shall be obtained as in this Act specified, without reference to any work previously done thereon.

SEC. 5. **Real Estate.**—Mining claims so located shall thereafter be deemed real estate, and the owner of the possessory right thereto shall have a legal estate therein, with the meaning of Section 316 of Hill's Code.

SEC. 6. **Exempt from Taxation.**—Prior to the obtaining of patent from the general government of the United States to such claim, the same shall be exempt from taxation, except as to the improvements, machinery and buildings thereon.

SEC. 7. **Proceedings to Divest Title.**—All conveyances of mining claims, or of interests therein, either quartz or placer, shall be subject to the provisions governing transfers and mortgages of other realty as to execution, recordation, foreclosure, execution sale, and redemption thereunder, but such redemption by the judgment debtor must take place within sixty days from date of confirmation, or such right is lost.

SEC. 8. **Proceedings in Redemption.**—In case of redemption from sale under judgment or decree, the redemptioner shall pay such sum or sums as are now required by law for redemption under execution sale, and such additional sum as may have been expended upon the property so redeemed by the purchaser under execution, or his assigns, in order to keep alive the possessory right thereto after such execution sale, not exceeding the sum of one hundred dollars for each claim, with ten per centum interest thereon from date of such expenditure or expenditures.

SEC. 9. **Ditches are Real Estate.**—Ditches and mining flumes, permanently affixed to the soil, are hereby declared to be real estate; provided, that whenever any person, company, or corporation, being the owner of any such ditch, flume, and the water right appurtenant thereto, shall cease to operate or exercise ownership over said ditch, flume or water right, for a period of five years, and every person, company, or corporation, who shall remove from this State with the intent or purpose to change his or its residence, and shall remain absent one year without using or exercising ownership over such ditch,

flume or water right, shall be deemed to have lost all title, claim, and interest therein.

SEC. 10. **Void Location.**—Any and all locations or attempted locations of quartz mining claims within this State subsequent to the thirty-first day of December, 1898, that shall not comply and be in accordance with the provisions of this Act shall be null and void.

SEC. 11. **Grub-staking.**—That all contracts of mining co-partnership commonly known as grub staking, shall be in writing, and filed for record with the recorder of conveyances of the county wherein locations thereunder are made. Such contracts must contain, first, the names of the parties thereto, and, second, the duration thereof. Otherwise such contracts shall be null and void.

SEC. 12. **Repeal.**—That Chapter XIII. of the code of civil and criminal procedure in justices' courts, and Sections 3827, 3828, 3830, 3831, 3832, 3833, 3834, 3835, and 3836 of Chapter LX., Hill's annotated laws of Oregon, be and the same are hereby repealed.

SEC. 13. **In Force Jan'y 1, 1899.**—Whereas, under existing laws there is great uncertainty as to mining titles, and the abuse of rights to locate thereunder is detrimental to the mining industry of this State, this Act shall be in force and take effect on and after the first day of January, 1899.

Approved October 14, 1898.

Special Session Laws, 1898, page 16.

SOUTH DAKOTA.

Location and Size of Lodes and Mining Claims.

1. **Length of Lode.**—The length of any lode claim hereafter located within this Territory may equal, but shall not exceed, fifteen hundred feet along the vein or lode.

2. **Width of Lode.**—The width of lode claims shall be one hundred and fifty feet on each side of the center of the vein or crevice; *Provided*, That any county may, at any general election, determine upon a greater width not exceeding three hundred feet on each side of the center of the vein or lode, by a majority of the legal votes cast at said election; and any county, by such vote at such election, may determine upon a less width than above specified; *Provided*, That not less than twenty-five feet on each side of the vein or lode shall be prohibited.

3. **Discoverer to Record His Claim.**—That the discoverer of a lode shall, within twenty days from the date of discovery, record his claim in the office of the register of deeds of the county in which such lode is situated, by a location certificate, which shall contain:

(1) The name of the lode.

(2) The name of the locator.

(3) The date of location.

(4) The number of feet in length claimed on each side of the discovery shaft.

(5) The number of feet in width claimed on each side of the vein or lode.

(6) The general course of the lode, as near as may be.

4. **When Certificate Void.**—Any location certificate of a lode claim which shall not contain the name of the lode, the name of the locator, the date of location, the number of lineal feet claimed on each side of the discovery shaft, the number of feet in width claimed, the general course of the lode, and such description as shall identify the claim with reasonable certainty, shall be void.

5. **Manner of Locating Claim.**—Before filing such location certificate, the discoverer shall locate his claim by first sinking a discovery shaft thereon sufficient to show a well-defined mineral vein or lode; second, by posting at the point of discovery, on the surface, a plain sign or notice containing the name of the lode, the name of the locator, and the date of discovery, the number of feet claimed in length on either side of the discovery, and the number of feet in width claimed on each side of the lode; third, by marking the surface boundaries of the claim.

6. **Marking Surface Boundaries.**—Such surface boundaries shall be marked by eight (8) substantial posts, hewed or blazed on the side or sides facing the claim, and sunk in the ground, to wit: one at each corner, and one at the centre of each side line, and one at each end of the lode. When it is impracticable, on account of rocks or precipitous ground, to sink such posts, they may be placed in a monument of stone.

7. **Requisite of Location.**—Any open cut, cross cut, or tunnel, at a depth sufficient to disclose the mineral vein or lode, or an adit of at least ten (10) feet in along the lode, from a point where the lode may be in any manner discovered, shall be equivalent to a discovery shaft.

8. **Time Discoverer Has to Perform Labor.**—The discoverer shall have thirty days from the time of uncovering or disclosing a lode, to sink a discovery shaft thereon.

9. **Certificate Construed to Contain.**—The location, or location certificate, of any lode claim shall be construed to include all surface ground within the surface lines thereof, and all lodes and ledges throughout their entire depth, the top or apex of which lies inside of such lines extended vertically, with such parts of all lodes or ledges as continue, by dip beyond the side lines of the claim, but shall not include any portion of such lodes or ledges beyond the end lines of the claim, or the end lines continued, whether by dip or otherwise, or beyond the side lines in any other manner than by the dip of the lode.

10. **Claim Not Beyond Exterior Lines.**—If the top or apex of the lode in its longitudinal course extends beyond the exterior lines of the claim at any point on the surface, or as extended vertically downward, such lode may not be followed in its longitudinal course beyond the point where it is intersected by the exterior.

11. **Claims Subject to Right of Way.**—All mining claims now located, or which may be hereafter located, shall be subject to the right of way of any ditch or flume for mining purposes, or of any tramway or pack trail which is now in use, or which may be hereafter laid out across any such location: *Provided always*, That such right of way shall not be exercised against any location duly made and recorded, and not abandoned prior to the establishment of the ditch, flume, tramway, or pack-trail, without consent of the owners, except by condemnation, as in case of land taken for public highways; parol consent to the location of any such easement, accompanied by the completion of the same over the claim, shall be sufficient without writing; *and provided further*, That such ditch or flume be so constructed that the water from such ditch or flume shall not injure vested rights by flooding or otherwise.

12. **Owner May Demand Security from Miner.**—When the right to mine is in any case separate from the ownership or right of occupancy to the surface, the owner or rightful occupant of the surface may demand satisfactory security from the miner, and if it be refused, may enjoin such miner from working until such security is given. The order for injunction shall fix the amount of bond.

13. **Filing an Amended Certificate.**—If at any time the locator of any mining claim heretofore or hereafter located, or his assigns, shall apprehend that his original certificate was defective, erroneous, or that the requirements of the law had not been complied with before filing, or shall be desirous of changing his surface boundaries, or of taking in any part of an overlapping claim which has been abandoned, or in case the original certificate was made prior to the passage of this law, and he shall be desirous of securing the benefit of this act, such locator o his assigns may file an additional certificate subject to the provisions of this act: *Provided*, That such relocation does not interfere with the existing rights of others at the time of such relocation, and no such relo

cation or the record thereof shall preclude the claimant or claimants from proving any such title or titles as he or they may have held under previous locations.

14. Work Performed Annually.—The amount of work to be done or improvements made during each year, to hold possession of a mining claim, shall be that prescribed by the laws of the United States, to wit: one hundred dollars annually.

15. Affidavit of Labor to be Made.—Within six months after any set time or annual period herein allowed for the performance of labor or making improvements upon any lode claim, the person on whose behalf such outlay was made, or some person for him, shall make and record an affidavit in substance as follows:

TERRITORY OF DAKOTA, } ss.
County of ———. }

Before me, the subscriber, personally appeared ———, who, being duly sworn, says that at least ——— dollars' worth of work or improvements were performed or made upon [here describe the claim or claims, or part thereof] prior to the — day of ———, A. D. 18—, situate in ——— mining district, county of ———, Territory of Dakota. Such expenditure was made by or at the expense of ———, owner of said claim, for the purpose of holding said claim.

[Jurat.] [Signature.]

And such certificate, when recorded in the office of the register of deeds of the county wherein such claim is located, shall be *prima facie* evidence of the performance of such labor.

16. Relocating Abandoned Claims.—The relocation of abandoned lode claims shall be by sinking a new discovery shaft, and fixing new boundaries, in the same manner as if it were the location of a new claim; or the relocator may sink the original shaft, cut, or adit to a sufficient depth to comply with sections five and seven of this chapter, and erect new or adopt the old boundaries, renewing the posts if removed or destroyed. In either case, a new location stake shall be erected. In any case, whether the whole or part of an abandoned claim is taken, the location certificate must state that the whole or any part of the new location is located as abandoned property.

17. One Certificate, One Location.—No location certificate shall claim more than one location, whether the location be made by one or several locators; and if it purport to claim more than one location, it shall be absolutely void, except as to the first location therein described; and if they are described together, or so that it cannot be told which location is first described, the certificate shall be void as to all.

18. Fee for Recording.—The register of deeds shall be entitled to receive the sum of one dollar for each location certificate recorded and certified by him, and shall furnish the locator or locators with a certified copy of such certificate when demanded, for which he shall be entitled to receive fifty cents.

Revised Code of Dakota, 1877, p. 159.

Location of Lodes.

AN ACT *to amend Chapter 31 of the Political Code.*

Be it enacted, etc.

SECTION 1.—**Discoverer entitled to sixty days before recording.** That section 3 of chapter 31 of the Political Code be, and the same is hereby amended by striking out the word "twenty" where it occurs in the second line thereof, and inserting in lieu thereof the word "sixty."

SEC. 2.—**Name of locators.** That subdivision 2 of section 3 of said chapter be amended by adding after the word "locator" the words "or locators."

SEC. 3.—**Name of locators.** That section 5 of said chapter be amended by adding after the word "locator" where it appears in the fifth line thereof, the words "or locators."

SEC. 4.—**Marking boundaries.** That section 6 of said chapter be amended by adding after the word "claim" the following: "and plainly marked with the name of the lode and the corner, end or side of the claim that they respectively represent."

SEC. 5.—**Locators entitled to sixty days to perform labor.** That section 8 of said chapter be amended by striking out the word "thirty" and inserting in lieu thereof the word "sixty."

SEC. 6.—**Time of doing annual work.** That section 14 of said chapter be amended by adding at the end of said section the following: "*Provided*, That the period within which the work required to be done annually on all unpatented claims so located, shall commence on the first day of January succeeding the date of location of such claim."

SEC. 7. —That section 15 of said chapter be and the same is hereby repealed.

SEC. 8.—This act shall take effect and be in force from and after its passage and approval.

Endorsed.—Received at Executive Office, February 28, at 5:30 P. M.

NOTE BY THE SECRETARY OF THE TERRITORY.

The foregoing act having been presented to the Governor of the Territory for his approval, and not having been returned by him to the House of the Legislative Assembly in which it originated, within the time prescribed by the Organic Act, has become a law without his approval.

GEO. H. HAND,
Secretary of the Territory.

[Laws of 1881. p. 123.]

Liens.

AN ACT *to create a lien for miners and laborers in certain cases.*

Be it enacted, etc.

SECTION 1.—**Miner to have lien upon mine for work done or material furnished.** That every miner or other person who, at the request of the owner or owners, or his or their agents, of any lode, lead, ledge, mine or deposit bearing gold, cinnabar, or copper, or of any coal bank or mine, or at the request of any contractor or sub-contractor, shall perform any labor whatever on said mine, or furnish any timber, rope,

nails or any other materials for timbering shafts or levels for the mine owned by such owner or owners, or who shall furnish any kind of materials for erecting any windlass, whims, or any other hoisting apparatus or machinery, or for any car track, cars, tunnels, drifts or openings thereon, or shall perform any labor on any tunnel, shall have a lien upon such lode, lead, ledge, mine, deposit, bank or tunnel to secure the payment of the same.

SEC. 2.—**When labor is performed for contractor, owner to pay, when.** Every miner or other person doing and performing any work or furnishing any materials as specified in section one of this act under a contract, either express or implied, between the owner or owners of any mine, or his or their agent, and any contractor working on such mine, whether such work shall be performed or materials furnished as miner, laborer or otherwise, whose demand for work so performed or materials so furnished has not been paid, may deliver to the owner or owners of such mine or tunnel, or to his or their agent or superintendent, an attested account of the amount and value of the work and labor thus performed or of the materials thus furnished and remaining unpaid, and thereupon such owner or owners or his or their agent, shall retain out of the first subsequent payments to such contractor the amount so due for such work and labor, or materials furnished, for the benefit of the person so performing or purchasing the same.

[Sections 3 to 7 refer to mode of procedure—EDITOR.]

SEC. 8.—**This act to apply to oil wells, etc.** The provisions of this act shall apply to oil wells or springs, iron and lead mines, as well as all other mines not herein specified, so far as the same may be applicable.

SEC. 9.—This act shall take effect and be in force from and after its passage and approval.

Approved, February 1, 1879.

[Laws of 1879. p. 114.]

For law relative to water rights, see laws of 1881, p. 226, and for right of way and easements, p. 124, same session.

UTAH.

Of Mines and Mining.

AN ACT *to provide rules for the working and development of mines.*

[*Approved February 16, 1872.*]

(1218) SECTION 1.—**Location of Claim.**—Be it enacted by the Governor and Legislative Assembly of the Territory of Utah: That any citizen of the United States, and any person who shall have declared his intention to become such, who shall hereafter discover any mineral deposit, lead, or lode, bearing gold, silver, tin, platina, copper, or cinnabar, shall be entitled to one claim thereon, by right of discovery, and one claim by right of location: *Provided*, That no person shall be entitled to more than one claim by right of location, on any one lead or lode. [See United States Law.]

(1219) SEC. 2.—**Defacing Notices, etc.**—Any person or persons who shall willfully or maliciously tear down or deface a notice posted on any mining claim, or take up or destroy any stake or monument, marking any such claim, or interfere with any person lawfully in possession of said claim, or who shall alter, erase, deface, or destroy any record kept by a mining recorder, shall be guilty of misdemeanor, and upon conviction thereof shall be punished by a fine of not less than twenty-five nor more than one hundred dollars, or by imprisonment for not less than ten days nor more than six months, or by both such fine and imprisonment. Justices of the Peace, in their respective counties, shall have jurisdiction of such offences.

(1220) SEC. 3.—**Wrongfully Extracting Ores.**—Any person wrongfully entering upon any mine or mining claim, and carrying away ores therefrom, or extracting or selling ores from any mine, being the property of another, shall be liable to the owner or owners of said ore for three times the value thereof, recoverable by an action at law; and should the plaintiff file his affidavit that the defendant did unlawfully take such ores, the defendant may be arrested and held to bail, as in cases for the recovery of the possession of personal property unjustly detained.

(1221) SEC. 4.—**Miner's Lien.**—Any person or persons who shall perform any work or labor upon any mine, or furnish any material therefor, in pursuance with any contract made with the owner or owners of such mine, or of any interest therein, shall be entitled to a miner's lien for the payment thereof upon all the interest, right, and property in such mine, by the person or persons contracting for such labor or materials at the time of making such contract; said lien may be enforced in the same manner and with the same effect as a mechanic's lien, as provided by the laws of *Utah*.

Records and Mining Rules.

AN ACT *in relation to proving the records and mining rules and regulations of the mining districts of the Territory, and for other purposes.*

[*Approved February 18, 1876.*]

(1222) SECTION 1.—**Location Notices.**—Be it enacted by the Governor and Legislative Assembly of the Territory of Utah: That copies of notices of location of the mines, lodes, and veins, and of tunnel sites recorded in the several mining districts, and of the mining rules and regulations in force in the several districts, in like manner recorded, shall be receivable in all the courts of this Territory, as *prima facie* evidence of such notices, rules, and regulations: *Provided*, The recorder of the district shall certify under his hand and seal that such copies are full, true, and perfect copies from the records in his custody. The seal of the office of the mining recorder so certifying, affixed to such certificate, shall be *prima facie* evidence of the fact of the election and qualification and official character of such mining recorder.

(1223) SEC. 2.—**County Recorders.**—It shall be the duty of the county recorder of the several counties of this Territory, to record the mining rules and regulations of the several mining districts in their respective counties; and when so recorded, certified copies thereof shall be received in all the courts of this Territory, as *prima facie* evidence of such rules and regulations.

(1224) SEC. 3.—**Fees.**—The mining recorders of the several mining districts shall be allowed the same fees for recording and making copies of any records in their custody as are now allowed by law for like services to county recorders. And it shall be the duty of each mining recorder, upon request and payment or tender of the fees therefor, to make and deliver to any person requesting the same, duly certified copies of any records in his custody; and for a failure so to do, or for receiving larger fees for any such service than those herein provided, such mining recorder shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be subjected to the same penalties provided against public officers in section twenty of the act entitled, "An act to regulate fees and compensation for official and other services in the Territory of Utah," passed February 20, 1874.

(1225) SEC. 4.—**District Records and Recorders.**—Recorders of mining districts shall, for the purpose of this act, be deemed public officers, and the records in their custody shall be deemed public records, and they are hereby required to keep an official seal.

[Compiled Laws of Utah, pp. 398, 399, 400.]

The Compiled Laws of 1888 (page 138) make the following changes in the preceding Laws:

Cut out Section 1218 and substitute Section 2790—"Any mining claim which shall hereafter be located upon any vein or lode of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper or other valuable deposits, may extend three hundred feet on each side of the middle of the vein or lode at the surface."

Add Sections 2798, 2799 and 2800.

"SEC. 2798—SEC. 5. Whenever there is a vacancy in the office of recorder of any mining district, or the person holding such office shall remove from the district, leaving therein no qualified successor in office; or whenever from any cause there is no person in such district authorized to retain the custody, and give certified copies of the records, it shall be the duty of the person having custody of the records to deposit the same in the office of the county recorder of the county in which such mining district is, or the greater part thereof is situated, and the county recorder shall receive such records and is hereby authorized to make and certify copies therefrom, and such certified copies shall be received in evidence in all courts and before all officers and tribunals, in the same manner and to the same effect as if certified by a qualified recorder of the mining district. The production of a certified copy so made, shall be, without other proof, evidence that said records were properly in the custody of the county recorder.

SEC. 2799—SEC. 1. That the recorders of the several mining districts shall each take an oath of office, and give a bond with approved securities in the penal sum of one thousand dollars, which bond shall be approved by and filed in the office of the probate judge of their respective counties.

SEC. 2800—SEC. 2. In cases where the recorder of any mining district appoints a deputy, said recorder shall be responsible for the official acts of said deputy.

Chapter XXX.—Liens for Mechanics and Others.

An Act to secure liens to mechanics and others and to repeal all other acts and laws in relation thereto.

SECTION 7. **Mines.**—The provisions of this act shall apply to all persons who shall do work or furnish materials for the working or development of any mine. * * * *And provided further*, That this Section shall not be deemed to apply to the owner or owners of any mine, lode, deposit, shaft, tunnel, incline, adit, drift or other excavation, when the same shall be worked by a lessee.

Approved March 12, 1890—Laws of 1890, p. 24.

Chapter XXXVII.—Mines.

An Act to provide right of way and easements for the development of mines.

Approved March 12, 1890—Laws of 1890, p. 37.

[This act embraces 13 sections, and provides for assessing damages, appeals, etc.]

Chapter XV.—Mining Recorders.

An Act to amend Section 2796 of the Compiled Laws of Utah Territory, 1888, relating to Fees of Mining Recorders.

SECTION 1. That Section 2796 [1224] of the Compiled Laws of Utah, 1888, be and the same is amended as follows: By striking out the words "by law for the services to county recorders" in the fourth line of the section and substituting in lieu thereof the words, "by the by laws of the mining district in which same is recorded or said copies are made."

Approved February 26, 1892.

WASHINGTON.

Location and Possession of Mining Lodes.

SECTION 2427.—**Governed How.**—All mining claims upon veins or lodes of quartz, or other rock in place, bearing gold, silver, or other valuable mineral deposits heretofore located, shall be governed as to length along the vein or lode by the customs, regulations, and laws in force at the date of such location.—1888, 160, 1; 1 H., 2210.

SEC. 2428.—**Extent—Restrictions.**—A mining claim located upon any vein or lode of quartz, or other rock in place, bearing gold, silver, or other valuable mineral deposits, after the approval of this act by the Governor, whether located by one or more persons, may equal but shall not exceed one thousand five hundred feet in length along the vein or lode; but no location of a mining claim shall be made until the discovery of the vein or lode within the limits of the claims located. No claims shall extend more than three hundred feet on each side of the middle of the vein at the surface, nor shall any claims be limited by any mining regulations to less than fifty feet of surface, on each side of the middle of such vein or lode at the surface, excepting where adverse rights, existing at the date of the approval of this act, shall make such limitation necessary. The end lines of each claim shall be parallel to each other.—1888, 160, 2; 1 H., 2211.

SEC. 2429.—**Exclusive Right to What.**—The locators of all mining locations heretofore made, or hereafter made under the provisions of this act, on any mineral vein, lode or ledge on the public domain, and their heirs or assigns, so long as they comply with the laws of the United States, and the territorial and local laws relating thereto, shall have the exclusive right to the possession and enjoyment of all surface included within the lines of their location, and of all veins, lodes, or ledges throughout their entire depth, and the top or apex of which lies within the surface lines of such location, extending downward vertically, although such veins, lodes, or ledges may so far depart from the perpendicular in their course downward as to extend outside of the vertical side line of said surface location.—1888, 160, 3; 1 H., 2212.

SEC. 2430.—**Conditions for Holding.**—In order to hold the possessory right to a location of a mine not less than one hundred dollars' worth of work must be performed or improvements made thereon annually: *Provided*, that the period within which the work required to be done annually on all unpatented claims so located shall commence on the first day of January succeeding the date of location of such claim.—1893, 75, 1.

SEC. 2431.—**Recorder.**—The miners of each mining district may elect a recorder of the said district. When so elected, such recorder shall provide books of record, in which it shall be his duty to record all notices of locations or transfers, bonds, conveyances or assignments of mining claims within his district, when the same shall be presented to him for record. Such records are hereby declared to be public

records open to inspection, and shall have the same force and effect so far as notice is concerned, as the records of deeds and mortgages in this State.—1888, 161, 5: 1 H., 2214.

SEC. 2432.—**Term—Oath—Fees.**—When a recorder shall be elected as provided in section 5 of this act [2431], he shall hold his office for a term of one year from the date of his election, and until his successor is elected and qualified. He shall, immediately after his election, file with the county auditor, of the county within which his district is situated, an oath to the effect that he will faithfully discharge the duties of his office. He shall be a certifying officer, and certified copies of his records shall have the same force and effect as similar papers certified by other officers of this State. His fees shall be the same as those of the county auditor for similar work; and should the office of recorder in any mining district at any time become vacant, it shall be the duty of the person last holding said office, and of any person into whose possession the same may come, to forthwith transmit all the records, papers and files of the said office to the auditor of the county in which such district is located, and such auditor shall thereafter keep the same as part of the records and files of his office.—1888, 161, 6; 1 H., 2215.

SEC. 2433.—**Where Recorded.**—Inasmuch as sections five and six of this Act [2431, 2432] leave the election of a recorder for a mining district optional with the miners thereof, all location notices, bonds, assignments and transfers of mining claims shall be recorded in the office of the county auditor of the county where the same is situated within thirty days after the execution thereof; *provided*, that all records of mining claims and of assignments, deeds, bonds and transfers heretofore made by any recorder of any mining district, or by any county auditor, are hereby declared to be valid and to have the same force and effect as records made in pursuance of the provisions of this act.—1888, 161, 7: 1 H., 2216.

Code, 1896, pp. 424, 425.

For inspection and working of Coal Mines, Boring for Oil and Minerals, and to prevent accidents from excavation, see sections 2434 to 2483, Code, 1896.

Relating to Monuments and Notices on Mining Claims.

SEC. 1. **Mining Monuments.**—Any person who shall wilfully and maliciously deface, remove, injure or destroy any location stake, side post, corner post, lead mark or monument, or any other land boundary monument, the same having been erected or implanted for the purpose of designating the location, boundary or name of any mining claim, lode or vein of mineral, or for posting the name of the discoverer, locator or owner or date of discovery thereon; or any person who shall so deface, obliterate, remove or destroy any notice having been placed or posted upon any mining claim for the purpose of marking or identifying the same, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not less than one hundred dollars ($100) nor more than five hundred dollars ($500), or by imprisonment in the county jail not exceeding one

year; *Provided, however*, That the provisions of this Act shall not apply to abandoned mining claims.

SEC. 2. Take Effect.—An emergency exists, and this Act shall take effect immediately.

Approved March 16, 1897.

Relating to the Mineral Lands of the State.

SECTION 1. Mining Leases.—The commissioner of public lands of the State of Washington is hereby authorized to execute leases and contracts for the mining of gold, silver, copper, lead, cinnabar or other valuable minerals, except coal, from any land now belonging to the State or from any lands to which the State may hereafter acquire title, subject to the conditions hereinafter provided.

SEC. 2. Proceeding to Secure Lease.—Any citizen of the United States finding precious minerals upon any lands belonging to the State of Washington may apply to the Commissioner of Public Lands for a lease of any amount of land not to exceed the amount of land allowed by the United States mining laws for locating and recording mining claims, and same dimensions.

SEC. 3. Mining Locations.—The manner of locating a mineral claim upon State land shall be similar to the State law regulating locations of mineral claims on government land: *Provided*, That any citizens that have found minerals on State lands previous to the passage of this Act, and have posted up notice setting forth the dimensions according to the mining law of the United States and the State of Washington, shall have prior right to lease the same, and shall have ninety (90) days after the passage of this Act to make application to the Commissioner of Public Lands for a lease.

SEC. 4. Timber.—The lessee may cut and use the timber found upon said premises for fuel and construction of buildings, required in the operation of any mine or mines on the premises; also the timber necessary for drains, tramways and supports for such mine or mines, and for no other purpose.

SEC. 5. Payment—Prospecting.—Before any lease shall be granted, the applicant shall pay to the State Treasurer the sum of five dollars ($5). The holder of a mineral lease, secured as above, shall have two years to develop said mine or mines: *Provided*, That no more than five tons of ore shall be removed therefrom, for assaying or testing purposes, until a contract as hereinafter provided shall have been executed.

SEC. 6. Contract.—At any time prior to the expiration of said lease, the lease holder, or any assignee thereof, shall have the right to obtain from the said Commissioner of Public Lands a contract which shall bind the State of Washington, as the party of the first part, and the person, persons or corporation to whom said contract shall issue, as the party of the second part, in a mutual observance of the obligations and conditions as specified therein.

SEC. 7. Royalty.—The terms and conditions on which the same may be mined shall be agreed upon by the Commissioner of Public Lands and the lessee: *Provided*, That the royalty or tax to be paid by the lessee shall be graduated. All claims or mines that do not yield

a net income of more than $2,000 shall pay a tax of ten dollars per year; over $2,000 and not to exceed $10,000, shall pay fifty dollars; from $10,000 to $100,000, five per cent.; all above $100,000, ten per cent. Where the lessee commits fraud, the penalty shall be the forfeit of the mine or mines and all property pertaining thereto.

SEC. 8. **Take Effect.**—There being no law of this State governing this subject, an emergency is declared to exist, and this law shall be in full force and effect on and after its approval by the governor.

Approved March 17, 1897.

Mining Claims and Rules of Mining Districts.

SECTION 1. **Location Record.**—The discoverer of a lode shall within ninety (90) days from the date of discovery, record in the office of the auditor of the county in which such lode is found a notice containing the name or names of the locators, the date of the location, the number of feet in length claimed on each side of the discovery, the general course of the lode, and such a description of the claim or claims located by reference to some natural object or permanent monument as will identify the claim.

SEC. 2. **Location and Marking of Claims.**—Before filing such notice, for record the discoverer shall locate his claim by first sinking a discovery shaft upon the lode, to the depth of ten (10) feet from the lowest part of the rim of such shaft at the surface, and shall post at the discovery at the time of discovery a notice containing the name of the lode, the name of the locator or locators, and the date of discovery, and shall mark the surface boundaries of the claim by placing substantial posts or stone monuments bearing the name of the lode and date of location; one post or monument must appear at each corner of such claim; such posts or monuments must be not less than three (3) feet high; if posts are used, they shall be not less than four inches in diameter, and shall be set in the ground in a substantial manner. If any such claim be located on ground that is covered wholly or in part with brush or trees, such brush shall be cut and trees be marked or blazed along the lines of such claim to indicate the location of such lines.

SEC. 3. **Discovery.**—Any open cut or tunnel having a length of ten (10) feet, which shall cut a lode at the depth of ten (10) feet below the surface, shall hold such lode the same as if a discovery shaft were sunk thereon, and shall be equivalent thereto.

SEC. 4. **Definition.**—The term "lode" as used in this Act shall be construed to mean ledge, vein or deposit.

SEC. 5. **Amendment.**—If at any time the locator of any quartz or lode mining claim heretofore or hereafter located, or his assigns, shall learn that his original certificate was defective, or that the requirements of the law had not been complied with before filing, or shall be desirous of changing his surface boundaries, or of taking in any additional ground which is subject to location, or in any case the original certificate was made prior to the passage of this law, and he shall be desirous of securing the benefits of this Act, such locator or his assigns may file an amended certificate of location, subject to the provisions of this Act, regarding the making of new locations.

SEC. 6. **Affidavit of Labor.**—Within thirty (30) days after the expiration of the period of time fixed for the performance of annual labor, or the making of improvements upon any quartz or lode mining claim or premises, the person in whose behalf such work or improvement was made, or some person for him knowing the facts, shall make and record in the office of the county auditor of the county wherein such claims are situate an affidavit or oath of labor performed on such claim. Such affidavit shall state the exact amount and kind of labor, including the number of feet of shaft, tunnel or open cut made on such claim, or any other kind of improvements allowed by law or by rules of mining districts made thereon.

SEC. 7. **Evidence.**—Such affidavit when so recorded shall be *prima facie* evidence of the performance of such labor or the making of such improvements, and such original affidavit after it has been recorded, or a certified copy of record of same, shall be received as evidence accordingly by all the courts of this State.

SEC. 8. **Relocation.**—The relocation of forfeited or abandoned quartz or lode claims shall only be made by sinking a new discovery shaft and fixing new boundaries in the same manner and to the same extent as is required in making a new location, or the relocator may sink the original discovery shaft ten feet deeper than it was at the date of commencement of such relocation, and shall erect new, or make the old monuments the same as originally required; in either case a new location monument shall be erected, and the location certificate shall state if the whole or any part of the new location is located as abandoned property.

SEC. 9. **Cascade Mountains.**—The provision herein relating to discovery shafts shall not apply to any mining location west of the summit of the Cascade Mountains.

SEC. 10. **Placers.**—The discoverer of placer or other forms of deposit subject to location and appropriation under mining laws applicable to placers shall locate his claim in the following manner:

First. He must immediately post in a conspicuous place at the point of discovery thereon a notice or certificate of location thereof, containing (a) the name of the claim; (b) the name of the locator or locators; (c) the date of the discovery and posting of the notice hereinbefore provided for, which shall be considered as the date of the location; (d) a description of the claim by reference to legal subdivisions of sections, if the location is made in conformity with the public surveys, otherwise a description with reference to some natural object or permanent monument as will identify the claim, and where such claim is located by legal subdivisions of the public surveys, such location shall, notwithstanding that fact, be marked by the locator upon the ground the same as the other locations.

Second. Within thirty (30) days from the date of such discovery, he must record such notice or certificate of location in the office of the auditor of the county in which such discovery is made, and so distinctly mark his location on the ground that its boundaries may be readily traced.

Third. Within sixty (60) days from the date of the discovery, the discoverer shall perform labor upon such location or claim in developing the same to an amount which shall be equivalent in the aggregate

to at least ten (10) dollars' worth of such labor for each twenty acres, or fractional part thereof contained in such location or claim.

Fourth. Such locator shall, upon the performance of such labor, file with the auditor of the county an affidavit showing such performance, and generally the nature and kind of work so done.

SEC. 11. **Evidence.**—The affidavit provided for in the last section, and the aforesaid placer notice or certificate of location, when filed for record shall be *prima facie* evidence of the facts therein recited. A copy of such certificate, notice or affidavit certified by the county auditor shall be admitted in evidence in all actions or proceeding with the same effect as the original, and the provisions of sections six (6) and seven (7) of this Act shall apply to placer claims as well as lode claims.

SEC. 12. **Future Locations.**—All locations of quartz or placer formations or deposits hereafter made shall conform to the requirements of this Act in so far as the same are respectively applicable thereto.

SEC. 13. **Mining Districts.**—Any mining district organized in the State of Washington in accordance with the laws of the United States, shall have power to make rules and regulations for such mining district, providing such rules and regulations do not conflict with the laws of the State of Washington or of the United States.

SEC. 14. **Road Building.**—Any mining district shall have the power to make road building to mining claims within such district applicable as assessment work, or improvement upon such claims: *Provided*, That rules pertaining to such road building shall be made only at a public meeting of the miners of such district regularly called by the mining recorder of such district: *Provided further*, That such meeting shall be attended by at least twelve (12) property holders of such district, and that no such rule can be made without the assent of the majority of the property holders of such district, who are present at such meeting. Such meeting to designate where, when and how such road work shall be done, and shall designate some one of their number who shall superintend such road building or construction, and who shall receipt for such labor to the performer thereof, such receipts to be filed with the county auditor of the county in which such work is performed by the holder or holders of such receipts, and shall be received as *prima facie* evidence of labor performed as annual assessment work upon such claim or claims, as may be designated by an affidavit or oath of labor as provided for in section six (6) of this Act: *Provided*, That nothing in this Act can be construed as being mandatory upon any owner or holder of mining property to perform labor upon any such road.

Approved March 8, 1899.

Session Laws, 1899, p. 69.

To Permit Indians to Sell Property.

SECTION 1. **Alienation of Real Estate.**—Any Indian who owns within this State any land or real estate allotted to him by the government of the United States, may, with the consent of Congress, either special or general, sell and convey by deed made, executed and acknowledged before any officer authorized to take acknowledgments

to deeds within this State, any stone, mineral, petroleum or timber contained on said land, or the fee thereof, and such conveyance shall have the same effect as a deed of any other person or persons within this State; it being the intention of this Act to remove from Indians residing in this State all existing disabilities relating to alienation of their real estate.

Approved March 13, 1899.

Session Laws, 1899, page 155.

Right of Way for Ditches, Canals and Flumes.

SECTION 1. **Water—Public Use.**—That any person, corporation or association of persons is entitled to take from the natural streams or lakes in this State water for the purposes of irrigation and mining, not theretofore appropriated or subject to rights existing at the time of the adoption of the constitution of this State, subject to the conditions and regulations imposed by law: *Provided*, that the use of water at all times shall be deemed a public use, and subject to condemnation as may from time to time be provided for by the Legislature of this State.

SEC. 2. **Riparian Owners.**—All persons who claim, own or hold possessory right or title to any land, or parcel of land, or mining claim, within the boundaries of the State of Washington, when such lands, mining claims or any part of the same are on the banks of any natural stream of water, shall be entitled to the use of any water of said stream not otherwise appropriated for the purposes of mining and irrigation to the full extent of the soil for agricultural purposes.

SEC. 3. **Right of Way.**—When any person owning claims, lands or mining claims, as specified in the foregoing section, is not a riparian proprietor, or being such has not sufficient frontage on said stream, lake, artificial stream, ditch or reservoir, to obtain a sufficient flow of water to irrigate his land or use on his mining claim, he shall be entitled to the right of way through the farms or tracts of lands or other mining claims which lie between him and said stream, lake, artificial stream, ditch or reservoir, or the farms, tracts of lands or mining claims which lie above and below him on said stream, lake, artificial stream, ditch or reservoir.

SEC. 4. **Extent of Right of Way.**—Such right of way shall extend only to a ditch sufficient for the purpose required, together with the right of ingress and egress to construct, maintain and repair the same; and whenever any person or persons find it necessary to convey water for the purposes of irrigation or mining through the improved or occupied lands of another, he or they shall select for the line of such ditch through such property the shortest and most direct route practicable upon which can be constructed with uniform or nearly uniform grade, and discharging the water at a point where it can be conveyed to and used upon the land or lands or mining claim of the person or persons constructing such ditch, canal or works.

SEC. 5. **Condemnation of Right of Way.**—Upon the refusal of the owner of the lands, lessees, or those in possession, through which it is proposed to run said canal, ditch or works to permit the passage of the same through their property, the person or persons desiring the right of way for such ditch, canal or works, may proceed to condemn and take the right of way therefor as hereinafter provided.

SEC. 6. **Condemnation Proceeding.**—In case of the refusal of the owners or claimants of any lands or mining claims through which such ditch, canal or other works are proposed to be made or constructed, to allow the right of way or the passage thereof, the persons, company or corporation desiring the right of way shall file in the superior court of the county, a complaint describing the land or mining claim to be crossed, the size of the ditch, canal or works, the quantity of land required to be taken, and the value of the land and damages to the property, setting forth the names of the owners or reputed owners or parties interested in the lands to be crossed, and praying that the right of way be granted. A summons shall issue and be served on all parties interested, as in all other cases of civil nature. In case the defendant fails to appear, the court shall, when the cause shall come on to be heard, impanel a jury in the cause, and they shall determine the value of the land occupied by said ditch, canal or works and the damages, and, upon the return of the verdict, the court shall enter a decree, directing that the right of way for the ditch, canal or works be established according to the description in the complaint, and that the plaintiff shall pay to the clerk of the court the full amount of the value of the land and damages found by the jury, before the plaintiff shall begin work on said ditch, canal or works.

SEC. 7. **Defendant's Allegations.**—That whenever the defendant shall appear in the cause, he shall allege in his answer the value of the land proposed to be used by said ditch, canal or works, and the jury shall determine the value, and the proceedings shall be had as in the preceding sections: *Provided*, that plaintiff shall not be required to reply to the answer of the defendant, but the sole issue to be determined by the jury shall be the value of the land to be occupied by said ditch, canal or works, and the damages thereto.

SEC. 8. **Definitions.**—The word person, whenever used in this Act, shall be construed to mean either a natural person, an association, or corporation, and the word he shall be construed to mean she, it, or they, and the word ditch shall be construed to include and mean dike, flume-way and irrigating canal.

SEC. 9. **Liberal Construction.**—The provisions of this Act shall be liberally construed so that the ultimate object and the intent of this Act shall be fully carried out.

Approved March 14, 1899.

Session Laws, 1899, page 261.

Leasing of Mineral Lands Belonging to the State.

SECTION 1. **Contract.**—That Section 6 of an Act entitled "An Act to regulate the leasing of mineral lands belonging to the State of Washington, and declaring an emergency," approved March 17, 1897, be amended to read as follows:

Section 6. At any time prior to the expiration of said lease, the lease holder, or any assignee thereof, shall have the right to obtain from the said Commissioner of Public Lands a contract which shall bind the State of Washington, as the party of the first part, and the person, persons or corporations to whom said contract shall issue as the party of the second part, in a mutual observance of the obligations and

conditions as specified therein (the contract provided for in this Act shall be as follows):

"*This idenfure*, made this . . . . day of . . . . . A. D. one thousand eight hundred and . . . . . , by and between the State of Washington, party of the first part, and . . . . . , party of the second part,

Witnesseth, that the party of the first part, in consideration of the sum of ten dollars to it in hand paid by the party of the second part, being the first annual payment as provided for in Chapter 102, Section 7, of the Session Laws of 1897, the receipt whereof is hereby acknowledged, and in further consideration of the covenants and conditions herein contained, to be kept and performed by the part . . . . of the second part, does hereby contract, lease and demise to the part . . . . of the second part for a term of thirty years from and after the . . day of . . . . . , one thousand eight hundred and . . . . . , the following described land situated in the county of . . . . . , in the State of Washington, viz.: . . . . . , which premises are leased to the part . . . . of the second part for the purposes of exploring for, mining, taking out and removing therefrom, the merchantable shipping ore, containing ore, lead, silver, gold and other minerals, which is or which hereafter may be found on, in or under said land, together with the right to construct all buildings, make all excavations, openings, ditches, drains, railroads, wagon roads, smelters and other improvements upon said premises, which are or may become necessary or suitable for the mining or removal of ore containing copper, lead, silver, gold or other minerals from said premises, with the right, during the existence of this lease, to cut and use the timber found upon said premises for fuel, and so far also as may be necessary for the construction of buildings required in the operation of any mine or mines, on the premises hereby leased, as also the timber necessary for drains, tramways and supports for such mine or mines: *Provided, however*, that the part . . . of the second part shall have the right at any time to terminate this agreement in so far as it requires the part . . . of the second part to mine ore on said lands, or to pay a royalty therefor, by giving written notice to the party of the first [part], which shall be served by leaving the same with the Commissioner of Public Lands, who shall officially, in writing, acknowledge the receipt of said notice, and the foregoing lease shall terminate sixty days thereafter, and all arrearages and sums which may be due under the same up to the time of its termination as set forth in said notice, shall be paid upon settlement and adjustment thereof. The party of the first part further agrees that the part . . . of the second part shall have the right under this agreement to contract with others to work such mine or mines, or any part thereof, or to sub-contract the same, and the use of the said land or any part thereof, for the purpose of mining for ore, with the same rights and privileges as are herein granted to the said part . . . of the second part.'

Approved March 18, 1899
Sessions Laws, 1899, page 337.

WYOMING.

Development of Mining Resources.

AN ACT *to provide for the development of the Mining Resources of the Territory of Wyoming.*

Be it enacted by the Council and House of Representatives of the Territory of Wyoming:

SECTION 1.—**Expenditure—Abandonment.**—Any person or persons who shall have performed work or made improvements or expenditures to the amount of one thousand dollars on any lead, lode, or ledge, the same shall not be subject to relocation under the laws of this Territory; *Provided*, That such quartz claim or claims shall not be abandoned, but shall be represented by the person or persons owning such claim or claims, or by his or their agent or attorney, who shall reside within the district in which such claim or claims may be situated, unless driven from said district by Indians. [See United States Law.]

SEC. 2.—**Salting Mines or Ores.**—Any person or persons who shall defraud, cheat, or swindle any party or parties by what is known as "salting," that is, by placing or causing to be placed in any placer or quartz claim, or dirt, gravel, or quartz contained therein, any gold, silver, or metals, or minerals which would prove to be a misrepresentation, thereby working injury or loss to any party or parties, shall be deemed guilty of a felony, and, upon conviction thereof, shall be fined in any sum not to exceed five thousand dollars and not less than fifty dollars, together with the cost of prosecution, and may be imprisoned in the territorial penitentiary not more than three years or less than thirty days, or both such fine and imprisonment.

SEC. 3.—**Delinquent Co-Owners.**—When parties owning in partnership any claim or claims, or any lead, lode, or ledge, or any one of the parties so owning, shall fail to perform his or her portion of the work, for the period of eight months, or pay the reasonable assessment for the same when said claim is being worked in accordance with the expressed wish of a majority of the persons owning such claim, it may be sold to pay such assessment by the person or persons to whom such assessment may be due, by giving thirty days' notice, published in the nearest newspaper, and by posting notice for thirty days on such claim, giving the amount of assessment due, date of notice, and date of sale. [See United States Law.]

SEC. 4.—**Exception to Residents.**—The provision of the foregoing section shall not apply to persons residing within the district in which his or her property is situated.

SEC. 5.—**Redemption of Sold Interest.**—Any property sold to pay assessments may be redeemed within the period of six months by the person or persons formerly owning such property, or by his or her agents, heirs, or attorneys, by paying the cost of advertising and sale, together with the assessments due, and ten per cent. upon all purchase-money for the same.

SEC. 6.—**Repeal Provision.**—All acts and parts of acts conflicting with this act be, and the same are, hereby repealed.

SEC. 7.—**When to Take Effect.**—This act shall take effect and be in force from and after its passage.

Approved December 16th, 1871.

Laws of 1871, p. 114.

Miners' Liens.

SEC. 1.—**When Created.**—That every miner or other person, who, at the request of the owner of any ledge or lode of quartz bearing gold, silver, cinnabar, or copper, or of any coal bank or mine, shall work in or upon such mine or bank, shall have a lien upon such vein or lode, mine or bank, to the amount due at any time when a demand shall be made upon such owner, or his or their agent, for money due for such labor, and payment shall be refused.

SEC. 2.—**Materials.**—That any person who shall labor as a mechanic, or otherwise, or who shall furnish timber, lumber, rope, nails, or any other material for timbering shafts [or] levels for the mine, who shall furnish any kind of materials for erecting windlass, whim, or other hoisting apparatus upon any vein, mine, or coal bank, referred to in the first section, shall also have a lien upon the mine or coal bank for which he furnished such materials, or upon which he performed such labor.

SEC. 3.—**Manner of Proceeding.**—The party seeking a lien shall proceed, so far as the proceedings are applicable in the same manner, to enforce a lien as by law required in the case of mechanics and other persons seeking to enforce a lien upon dwelling-houses and other buildings, except when other provisions are made by this Act.

SEC. 4.—**Notice How and When Filed.**—When any sum exceeding ten dollars for labor performed by any miner or other person upon or in any mine or coal bank specified in section one of this Act, shall be due and unpaid for ten days, it shall be competent for the person or persons to whom such sum of money shall be due, to file a notice in the office of county recorder in the county where such mine is situated, at any time within thirty days after the last day upon which work was done by him; which said notice shall in substance set forth the fact that the party performed labor (naming the kind) for a party or company (naming the party or company), that such labor was performed under a contract (stating the substance); also, the time when the party commenced and when he ceased to work, the amount still due and unpaid, together with a description of the mine or coal bank upon which such work was performed, which statement shall be verified by the affidavit of the party so filing it, and when filed, the county recorder shall record the same in a "lien-book," the same as required in the case of mechanics' notices of liens.

SEC. 5.—**Materials Furnished.**—The provisions of the next preceding section shall apply to persons who shall furnish materials or work upon any shaft, whim, or other hoisting works, who, by complying with the general provisions of such section, shall have a like lien.

SEC. 6.—**Lien Holds Against Purchasers.**—When notices as provided in the next two preceding sections shall be filed, the lien shall hold not only against the owner of the mine or bank, from the time when the miner or other person began work, but against all persons or company who shall have purchased such mine or coal bank

while such miner or other person was employed therein, or furnished naterials used therein or thereon.

SEC. 7.—**When Suit May Be Commenced.**—Suit to enforce such lien may be commenced at any time within one year after filing such notice.

SEC. 8.—**Oil Well or Spring.**—Any owner of any oil well or spring who shall employ any person to perform any work of any kind around or about any oil well or spring, either in building derricks, buildings, or any kind of machinery, or in boring or drilling, shall be deemed within the provisions of this Act; and all persons performing labor or furnishing materials, shall have like liens upon oil territory upon which he labored, or for which he furnished materials or the improvements thereon, as miners or other laborers upon or in mines as provided in this Act, and shall proceed in the same manner to enforce a lien.

SEC. 9.—**Takes Effect.**—This act shall take effect and be in force from and after its passage.

Approved December 2d, 1869.

Laws of 1869, p. 404.

Mining Resources.

AN ACT *to amend an act entitled "An Act to provide for the development of the mining resources of the Territory of Wyoming."*

Be it enacted, etc.

SECTION 1.—That section one of an act entitled "An Act to provide for the development of the mining resources of the Territory of Wyoming," approved 16th December, 1871, be and the same is hereby amended as follows: By inserting the words "or placer claims" after the word "ledge" in the third line of said section, also by inserting the words "or placer" after the word "quartz" in the fifth line of the said section, as said section is printed in the Compiled Laws of Wyoming.

SEC. 2.—That section three of the said act be and the same is hereby amended by striking out the word "thirty" in the eighth line of said section, and inserting the word "ninety" instead in said eighth line as printed in the Compiled Laws of Wyoming.

SEC. 3.—This act shall take effect and be in force from and after its passage.

Approved March 10, 1882.

[Laws of 1882. p. 156.]

Mining Districts—Laws Relating Thereto.

AN ACT *to provide for the preservation of the records, laws and proceedings of mining districts, and their use as evidence.*

Be it enacted, etc.

SECTION 1.—That a copy of all the records, laws and proceedings of each mining district, so far as they relate to lode claims, shall be filed in the office of the Register of Deeds of the county in which the district is situated, within the boundaries attached to the same, which shall be taken as evidence in any court having jurisdiction in the matters concerned in such record or proceeding; and all such records of deeds and conveyances, laws and proceedings of any mining district heretofore filed in the register's office of the proper county, and transcripts thereof duly

certified, whether such record relate to gulch claims, lode claims, building lots, or other real estate, shall have the like effect in evidence.

SEC. 2.—It shall be the duty of the Recorder of each mining district to file copies as above provided, and reasonable fees therefor may be provided by the several mining districts.

SEC. 3.—This act shall take effect from and after its passage.

Approved November 26, 1879.

[Laws of 1879. p. 115.]

Preservation of Records.

AN ACT *to amend an act entitled "An Act to provide for the preservation of the records, laws, and proceedings of mining districts and their use in evidence."*

Be it enacted, etc.

SECTION 1.—That section one of an act entitled "An Act to provide for the preservation of the records, laws and proceedings of mining districts and their use in evidence," approved November 26th, 1879, be and the same is hereby amended by striking out of the second and third lines thereof, as they appear in the Session Laws of 1879, the words "so far as they relate to lode claims," and that said section one be further amended by adding thereto the words as follows: "Such copies of records, laws and proceedings, shall be filed in the office of the said Register of Deeds by the recorder of each mining district within thirty days after the organization of each new mining district, and there shall be filed in the office of the said Register of Deeds by the said recorder, during the first week of each month, complete copies of all the records, laws and proceedings made, enacted and had in each mining district during the preceding month.

SEC 2.—This act shall take effect and be in force from and after its passage.

Approved March 9, 1882.

[Laws of 1882. p. 157.

Location and Extent of Mining Claims.

SEC. 1. **Length of Lode.**—That hereafter, the length of any lode mining claim located within this Territory, shall not exceed fifteen hundred feet along such lode or vein.

SEC. 2. **Width of Lode.**—That the width of any lode claim located in this Territory shall not exceed three hundred feet on each side of such lode, veins or crevices; the measurement thereof to extend from the center of the discovery shaft of such lode, vein or crevice.

SEC. 3.—**Record of Claim.**—A discoverer of any mineral lode shall, within three months from the date of such discovery, record his claim in the office of the recorder of deeds of the county in which such mineral claim is situated, by a "location certificate," which shall contain:

First. The name of the lode claim.

Second. The name of the locator.

Third. The date of the location.

Fourth. The dimensions, in feet, claimed on each side of the discovery shaft.

Fifth. The general course of the lode, as near as known.

SEC. 4. **Void Certificate.**—Any certificate of the location of a lode claim which shall not fully contain all the requirements named in the preceding section, together with such other description as shall identify the lode or claim with reasonable certainty, shall be void.

SEC. 5. **Designation of Location.**—Before the filing of a location certificate the discoverer of any lode, vein or fissure, shall designate the location thereof, as follows:

First. By sinking a shaft upon the discovered lode or fissure to the depth of ten feet from the lowest part of the rim of such shaft at the surface.

Second. By posting at the point of discovery, on the surface, a plain sign or notice, containing the name of the lode or claim, the name of the discoverer and locator, and date of such discovery.

Third. By making the surface boundaries of the claim, which shall be marked by six substantial posts hewed or marked on the side or sides which face in toward the claim and sunk in the ground, one at each corner, and one at the center of each side line. Where bed-rock renders it impossible to thus sink such stakes, they may be placed within a pile of stones; and when thus marking the boundaries of a claim, if any one or more of such posts shall fall, by necessity, upon precipitous ground, where the proper placing of it is impracticable or dangerous to life or limb, it shall be lawful to place any such post at the nearest point, properly marked to designate its right place; *Provided*, That no right to such lode or claim, or its possession and enjoyment, shall be given to any person or persons unless such person or persons shall discover in said shaft mineral-bearing rock in place.

SEC. 6. **Adit—Cut or Tunnel.**—That any open cut, or cross cut, or tunnel which shall cut a lode at the depth of ten feet at least below the surface, shall hold such lode the same as if a discovery shaft were sunk thereon, or an adit of not less than ten feet along the lode from the points where such lode may be in any manner discovered, shall be equivalent to a discovery shaft.

SEC. 7. **Shaft in Ninety Days.**—The discoverer of any mineral lode or vein in this Territory shall have the period of ninety days from the date of discovering such lode or vein in which to sink a shaft thereon.

SEC. 8. **Extent of Claim.**—That the location of any lode, claim, or location certificate thereof, shall be construed to include all surface ground within the surface limits thereof, and that all lodes and ledges throughout their entire depth, the upper limits of which lie within the defined surface lines of such claim, extended downward vertically, with such parts of all lodes or ledges as continue by dip beyond the side lines of the claim; but shall not include any portion of such lode or ledges beyond the end lines of the claim, or beyond the side lines of the claim, in any other manner than by the dip of the lode or ledge. If the upper limit or top of a lode in its longitudinal course extend beyond the exterior end lines of the claim at any point on the surface, or as extended vertically downward, such lode shall not be followed in its longitudinal course beyond the point where it is intersected by the end lines.

Placer Claims.

SEC. 9. **Record of Placers.**—That hereafter the discoverer of any placer claim shall, within ninety days from the date of such discovery, record such claim within the office of the Recorder of Deeds of the County within which such claim may exist, by a location certificate which shall contain the following facts:

First. The name of the claim, designating it as a placer claim.

Second. The name or names of the locator or locators thereof.

Third. The date of such location.

Fourth. The number of feet or acres thus claimed.

Fifth. A description of the claim by such designation of natural or fixed monuments as shall identify the claim beyond question. *Provided,* That if the United States survey has been extended over said lands, then the claim or claims shall be taken by legal subdivision, and no other monuments shall be required than the United States corners. Before filing such location certificate the discoverer shall locate his claim—

First. By securely fixing upon such claim a notice in plain painted, printed or written letters, containing the name of the claim, the name of the locator, the date of the discovery of such claim, and the number of feet or acres thus claimed.

Second. By designating the surface boundaries by substantial posts, one at each corner of the claim. In localities where timber cannot be found, or where such corners or angles are of rocky surface, such monuments may consist of mounds of stone three feet high and three at the base.

SEC. 10. **Annual Expenditure.**—On every placer claim of one hundred and sixty acres, heretofore or hereafter located in this Territory, not less than one hundred dollars' worth of manual labor shall be performed, or permanent improvements made thereon to the same amount, by the thirty-first day of December each year, from the first day of January after such location is made until a patent shall have been issued therefor. On all placer claims containing less than twenty acres the expenditure thereon each and every successive year shall not be less than fifteen dollars; but when two or more placer claims lie contiguous and are owned by the same person or persons or corporation, the yearly expenditure of labor and improvements required on each of such claims may be made on any one of such contiguous claims, if the owner or owners shall thus prefer; but upon a failure to comply with these conditions within the time above required, such claim or claims shall thereafter be open to relocation on and after the first day of January of any year after such labor or improvements were due, in the same manner and on the same terms as if no location thereof had ever been made; *Provided,* That the original locators, their heirs, assigns or legal representatives, have not resumed work upon such claim or claims after failure, and before any subsequent location has been made; and *Provided further,* That the aforesaid expenditure required to be made upon such claim or claims may be made in buildings, ditches to conduct water upon or from such claim or claims, or in making other mining improvements thereon necessary for the working of such mining claim or claims. Upon the failure of any one or more of several joint owners of any mining claim in this

Territory to do and perform his or their proportion of the assessment labor or make the improvements required by this act upon his or their mining claim or claims within the time herein required, shall forfeit his or their right therein, and their joint or co-owners, who may have performed such assessment of labor or made such required improvements on such claim or claims within the time required, to wit: Within the year after the thirty-first day of December after such location was duly made, and for each succeeding year, so long as such labor and improvements shall be due under the provisions of this act, may succeed to the forfeited right and interest of delinquent joint owners, by giving them personal notice in writing, or if they be non-residents of the Territory, such notice shall be by publication in a newspaper issued nearest to such claim, once a week for ninety successive days, and by mailing each of such delinquent joint owner, or owners, a copy of the newspaper containing such notice, if his or their address be known; and if after the expiration of ninety days from the day of personal notice, or from the first newspaper publication aforesaid, such delinquent or delinquents should fail or refuse to contribute his or their proportion of assessment labor or improvements due, or a money equivalent therefor, his or their interests in such claim or claims, shall become the property of his or their joint or co-owners who shall have made the expenditure required under this act. In all such cases a copy of the last advertisement with the affidavit of the editor testifying to said advertisement, shall be recorded in the County Recorder's office when such locations occur.

SEC. 11. **Water Right.**—That hereafter, whenever any person, persons or corporation shall be engaged in mining or milling in this Territory, and in the prosecution of such business shall hoist or bring water from mines or natural water courses, such person, persons or corporation shall have the right to use such water in such manner, direct it into such natural course or gulch, as their business interest may require; *Provided*, That such diversion shall not infringe on vested rights. The provisions of this section shall not be construed to apply to new or undeveloped mines, but to those only which shall have been opened and require drainage or other direction of water.

SEC. 12. **Right of Way for Ditches, Flumes, and Tramways.**—That all mining claims or property now located, or which may hereafter be located within this Territory shall be subject to the right of way of any ditch or flume for mining purposes; or if any tramway, pack-trail or wagon road, whether now in use or which may hereafter be laid out across any such location, claim or property; *Provided always*, That such right of way shall not be exercised against any mining location, claim or property duly made and recorded as herein required, and not abandoned prior to the establishment of any such ditch, flume, tramway, pack-trail or wagon-road, without the consent of the owner or owners, except in condemnation, as in the case of land taken for public highways. Consent to the location of the easements above enumerated over any mineral claim, location or property shall be in writing; and *Provided further*, That any such ditch or flume shall be so constructed that water therefrom shall not injure vested rights by flooding or otherwise.

SEC. 13. **Surface Right.**—Where a mining right exists in any

case, and is separate from the ownership or right of occupancy to the surface, the owner or occupant of the surface may demand satisfactory security from the miner or miners, and if such security is refused, such owner or occupant of the surface may enjoin the miner or miners from working such mine until such security is given. The order for such injunction shall fix the amount of the bond therefor.

SEC. 14. **Additional Location Certificate.**—Whenever it shall be apprehended by the locator, or his assigns, of any mining claim or property heretofore or hereafter located, that his or their original location certificate was defective, erroneous, or that the requirements of the law had not been complied with before the filing thereof; or shall be desirous of changing the surface boundaries of his or their original claim or location, or of taking in any part of an over-lapping claim or location which has been abandoned; or in case the original certificate was made prior to the approval of this act, and he or they shall be desirous of securing the benefit of this law, such locator or locators, or his or their assigns, may file an additional location certificate in compliance with and subject to this act; *Provided, however*, That such relocation does not infringe upon the rights of others existing at the time of such relocation, and that no such relocation, or other record thereof, shall preclude the claimant or claimants from proving any such title or titles as he or they may have held under the previous location.

SEC. 15. **Relocation.**—Any abandoned lode, vein or strata claim may be relocated, and such relocation shall be perfected by sinking a new discovery shaft and by fixing new boundaries in the same manner as provided for the location of a new claim; or the relocator may sink the original discovery shaft ten feet deeper than it was at the time of its abandonment, and erect new or adopt the old boundaries, renewing the posts if removed or destroyed. In either event, a new location stake shall be fixed. The location certificate of an abandoned claim may state that the whole or any part of the new location is located as an abandoned claim.

SEC. 16. **One Claim.**—No location certificate shall contain more than one claim or location, whether the location be made by one or more locators; and any location certificate that contains upon its face more than one location claim, shall be absolutely void, except as to the first location named and described therein; and in case that more than one claim or location is described together, so that the first one cannot be distinguished from the others, the certificate of location shall be void as an entirety.

SEC. 17. **Conspiracy—Misdemeanor.**—That in all cases when two or more persons shall, through collusion or otherwise, associate themselves together for the purpose of obtaining the possession of any lode, gulch, placer, or other mineral claim or mining property within this Territory, then in the actual possession of another or others, by force and violence, or threats of violence, or by stealth, and shall proceed to carry out such purpose by making threats to and against the party or parties in possession; or who shall enter upon such lode, gulch, placer or other mineral claims or mining property for the purpose aforesaid; or who shall enter upon or into any lode, quartz mills, placer claims, gulch, or other mineral claim or mining property; or,

not being on such mining claim or mineral property, but within hearing of the same, shall make any threats, or make use of any language, signs or gestures, calculated to intimidate any person or persons in possession, or at work on said claim or claims of mineral property of whatever kind or nature, from continuing such possession or work thereon or therein; or to intimidate others from engaging to be employed thereon or therein, every such person or persons so engaging shall be guilty of a misdemeanor, and, upon conviction thereof, shall be fined in a penal sum, not exceeding two hundred and fifty dollars, and be imprisoned in the county jail for not less than thirty days, nor more than six months; such fine to be discharged either by money payment, or by confinement in said county jail, until the same is paid at the rate of two dollars and fifty cents per day. On trial of any person or persons charged with any of these offences enumerated in this section, the proof of a common purpose of two or more persons to unlawfully secure possession of any mining claim or mineral property within this Territory; or to intimidate any one in possession of, or laborers at work on any mining claim or mineral property aforesaid, accompanied or followed by any acts or utterances of such person or persons, as herein enumerated, shall be sufficient evidence to convict any one committing such acts, although such parties may not be associated or acting together at the time of the commission of such offenses.

SEC. 18. **Unlawful Cutting, &c.** Any person or persons, who shall unlawfully cut down, break down, level, demolish, destroy, injure, remove, or carry away any sign, notice, post, mark, monument or fence, upon or around any shaft, pit, hole, incline or tunnel, or any building, structure, machinery, implements or other property, on any mining claim or mineral property, ground or premises, upon any of the public lands of this Territory, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined a penal sum of money not less than fifty dollars, nor more than one thousand dollars, or be imprisoned for not less than thirty days, nor more than one year, or by both fine and imprisonment, in the discretion of the Court.

SEC. 19. **Salting—Deception.**—Any person or persons who shall defraud, cheat, swindle, or deceive any party, or parties, in relation to any mine or mining property, by "salting," or by placing or causing to be placed in any lode, placer or other mine, any genuine metals or material representing genuine minerals, which are designed to cheat and deceive others, for the purpose of gain, whereby others shall be deceived and injured by such, or any other deceptive methods, shall be guilty of a felony, and upon conviction thereof, shall be fined in a penal sum of not less than fifty dollars, and not more than five thousand dollars; or imprisonment in a penitentiary for not less than thirty days, nor more than three years, or both fine and imprisonment, in the discretion of the Court.

SEC. 20. **Protection of Live Stock.**—Every person, persons, company or corporation, who has already sunk mining shafts, pits, holes or inclines in any mining claim, or any mineral property, ground or premises, upon any of the public lands of this Territory, or who may hereafter sink such openings aforesaid, shall forthwith secure such shafts and openings against the injury or destruction of live stock run-

ning at large upon the public domain by securely covering such shafts and other openings as aforesaid in a manner to render them safe against the possibility of live stock falling into them, or in any manner becoming injured or destroyed thereby; or by forthwith making a strong, secure and ample fence around such shafts and other openings aforesaid. Any person, persons, company or corporation that shall fail or refuse to fully comply with the provisions of this section, shall be guilty of a misdemeanor, and on conviction thereof shall be liable for any damages sustained by injury or loss of live stock thereby; and shall also be fined in a penal sum of not less than twenty-five dollars, nor more than one hundred dollars.

SEC. 21. **Coal Mines.**—Provided, that nothing in this act shall apply to the workings of coal mines.

SEC. 22.—**Repeal.**—That all acts and parts of acts in conflict or inconsistent with this act are hereby repealed.

SEC. 23. **Take Effect.**—This act shall take effect and be in force from and after its passage.

Approved March 12, 1886. Laws of 1886, p. —.

AN ACT *to repeal and re-enact chapter one, title thirty, of the Revised Statutes of Wyoming.*

SECTION 1.—**Miners' Laws.**—In any mining district, or in mining field of discovery of veins, leads, lodes or ledges, or of gold placers, petroleum fields, soluble salt deposits, or of any mineral lands whatever, or of any lands that are or may be hereafter opened to location under the laws governing mineral deposits, the miners may meet and organize, and elect a recorder and make regulations not in conflict with the laws of the United States, or with the laws of this Territory governing the location, manner of recording, and amount of annual work necessary to hold possession of a mining claim within the district, subject to the following requirements:

First. That any five miners, having locations, or owning in part or in whole, claims within the proposed district, shall give notice by at least three written or printed, or partially written and partially printed notices, posted in prominent places within the proposed district, of a meeting called by them for organizing such district, at a date at least ten days subsequent to the posting of such notices.

Second. That the meeting thus called shall be attended by at least ten persons all having locations, or owning in part or in whole, claims within the proposed district.

Third. That the recorder elected for such an organized district, shall hold his office until his successor is elected and qualified according to law. Such recorder is required to give bonds with at least two sureties, to the people of Wyoming, in the penal sum of not less than one thousand dollars, for the faithful performance of his duties, and for the turning over of all books, papers, records, etc., of his office, to his duly elected and qualified successor, which bond shall be approved by the probate judge, and filed in the office of the county clerk and recorder. The recorder of such a mining district may appoint a deputy, for whose official acts he shall be responsible.

Fourth. That no district need be organized if the majority at the meeting as hereinbefore provided so desire; but when a district is once

organized, it cannot be subdivided except in accordance with the local laws of the district, enacted at the regular or special meetings, or by action of the Legislature of this Territory. In case of the abandonment of any district for any cause whatever, it shall be the duty of the district recorder, as soon as practicable thereafter, to deposit all records and other papers pertaining to his office in the office of the recorder and register of deeds of the county in which said district is located.

Fifth. Each mining district may regulate the fees to be charged by the local recorder for recording location certificates, affidavits of labor, and all other instruments to be filed in the said recorder's office.

SEC. 2.—**Recorder's Office—Evidence.**—A copy of all the laws and proceedings of each mining district shall be filed in the office of the recorder of deeds of the county in which the district is situated, which shall be taken as evidence in any court having jurisdiction in the matter concerned under such laws or proceedings; and all such laws or proceedings of any mining district heretofore filed in the recorder's office of the proper county, and transcripts thereof duly certified, shall have the like effect in evidence. Such copies of laws and proceedings shall be filed in the office of the said recorder of deeds by the recorder of each mining district within sixty days after the organization of each new mining district, or within sixty days after new laws were adopted or proceedings had.

SEC. 3.—**Mining Recorder.**—It shall be the duty of the recorder of each mining district to file copies as above provided.

SEC. 4.—**Water Rights.**—Whenever any person, persons, or corporation shall be engaged in mining or milling in this territory, and in the prosecution of such business, shall hoist or bring water from mines or natural water courses, such person, persons or corporation shall have the right to use such water in such manner, and direct it into such natural course or gulch as their business interests may require. *Provided*, that such diversion shall not infringe on vested rights. The provisions of this section shall not be construed to apply to new or undeveloped mines, but to those only which shall have been open and require drainage or other direction of water.

SEC. 5.—**Right of Way.**—All mining claims or property now located, or which may hereafter be located within this territory, shall be subject to the right of way of any ditch or flume for mining purposes, or of any tramway, pack trail or wagon road, whether now in use or which may hereafter be laid out across any such location, claim or property. *Provided always*, that such right of way shall not be exercised against any mining location, claim or property duly made and recorded as herein required, and not abandoned prior to the establishment of any such ditch, flume, tramway, pack-trail or wagon road, without the consent of the owner or owners, except in condemnation, as in the case of land taken for public highways. Consent to the location of the easements above enumerated over any mineral claim, location or property, shall be in writing; *And provided further*, that any such ditch or flume shall be so constructed that water therefrom shall not injure vested rights by flooding or otherwise.

SEC. 6.—**Security—Injunction.**—When a mining right exists in any case and is separate from the ownership and right of occupancy to

the surface, such owner or rightful occupant of the said surface may demand satisfactory security from the miner or miners, and if such security is refused, such owner or occupant of the surface may enjoin the miner or miners from working such mine until such security is given. The order of such injunction shall fix the amount of the bond therefor.

SEC. 7.—**Relocation.**—Whenever it shall be apprehended by the locator or his assignees, of any mining claims or property heretofore or hereafter located, that his or their original location certificate was defective, erroneous, or that the requirements of the law had not been complied with before the filing thereof, or shall be desirous of changing the surface boundaries of his or her original claim or location, or of taking away part of an overlapping claim or location which has been abandoned, or in case the original certificate was made prior to the approval of this act, and he or they shall be desirous of securing the benefit of this law, such locator or locators, or his or their assigns, may file an additional location certificate in compliance with and subject to this act. *Provided, however*, That such relocation shall not infringe upon the rights of others existing at the time of such relocation, and that no such relocation or other record thereof shall preclude the claimant or claimants from proving any such title or titles as he or they may have held under any previous location.

SEC. 8.—**Location Certificate.**—No location certificate shall contain more than one claim or location, whether the location be made by one or more locators, and any location certificate that contains upon its face more than one location claim shall be absolutely void, except as to the first location named and described therein, and in case more than one claim or location is described together, so that the first one cannot be distinguished from the others, the certificate of location shall be void as an entirety.

SEC. 9.—**Violence and Threats.**—In all cases where two or more persons shall, through collusion or otherwise, associate themselves together for the purpose of obtaining possession of any lode, gulch, or placer or other mineral claim or mining property within this Territory, then in the actual possession of another or others, by force or violence, or threats of violence, or by stealth, and shall proceed to carry out such purpose by making threats to and against the party or parties in possession, or who shall enter upon such lode, gulch, placer or other mineral claim or mining property for the purposes aforesaid, or who shall enter into any mineral claim or mining property; or, not being on such mining claim or mineral property, but within hearing of the same, shall make any threats or any use of any language, signs, gestures, intended to intimidate any person or persons in possession or at work on the said claim or claims of mineral property of whatever kind or nature, from continuing such possession or work thereon or therein, or to intimidate others from engaging to be employed thereon or therein, every such person or persons so engaging shall be guilty of a misdemeanor, and, upon conviction thereof, shall be fined a penal sum not exceeding $250, and be imprisoned in the county jail for not less than thirty days nor more than six months, or by both such fine and imprisonment. On trial of any person or persons charged with any of the offenses enumerated in this section, the proof of a common

purpose of two or more persons to unlawfully secure possession of any mining claim or mineral property within the territory, or to intimidate any one in the possession of, or laborers at work on any mining claim or mineral property aforesaid, accompanied or followed by any acts or utterances of such person or persons herein enumerated, shall be sufficient evidence to convict any one committing such acts, although such parties may not be associating or acting together at the time of the commission of such offenses.

SEC. 10.—**Misdemeanors.**—Any person or persons who shall unlawfully cut down, break down, level, demolish, destroy, injure, remove or carry away any sign, notice, post, mark, monument or fence upon or around any shaft, pit, hole, incline or tunnel, or any building, structure, machinery, implements or other property, on any mining claim or mineral property, ground or premises, shall be guilty of a misdemeanor, and, upon conviction thereof, shall be fined a penal sum of money no less than fifty dollars nor more than one thousand dollars, or be imprisoned for not less than thirty days nor more than one year, or by both such fine and imprisonment, in the discretion of the court.

SEC. 11.—**Salting Mines.**—Any person or persons who shall defraud, cheat, swindle or deceive any party or parties, in relation to any mine or mining properties by "salting," or by placing or causing to be placed in any lode, placer or other mine, any genuine metals, or material representing genuine mineral, which are designed to cheat and deceive others, for the purpose of gain, whereby others shall be deceived and injured by such, shall be guilty of a felony, and, upon conviction thereof, shall be fined in a penal sum of not less than fifty dollars and not more than five thousand dollars, or imprisonment in a penitentiary for not less than thirty days or more than three years, or both fine and imprisonment, in the discretion of the court.

SEC. 12.—**Live Stock.**—Every person or persons, company or corporation, who have already sunk mining shafts, pits, holes, inclines, upon any mining claim or on any mineral property, ground or premises, or who may hereafter sink such opening aforesaid, shall forthwith secure such shafts and openings against the injury or destruction of live stock running at large upon the public domain, by securely covering such shafts and other openings, as aforesaid, in a manner to render them safe against the possibility of live stock falling into them, or in any manner becoming injured or destroyed thereby; or by forthwith making a strong, secure and ample fence around such shafts and other openings aforesaid. Any person, persons, corporation or company, that shall fail or refuse to fully comply with the provisions of this section, shall be guilty of a misdemeanor, and on conviction thereof, shall be liable for any damages sustained by injury or loss of live stock thereby.

SEC. 13.—**Length of Lode Claims.**—The length of any lode mining claim located within Wyoming Territory shall not exceed fifteen hundred feet, measured horizontally along such lode or vein. Nor can the regulations of any mining district limit a locator to less than this length.

SEC. 14.—**Width of Lode Claims.**—The width of any lode claim located within Wyoming Territory shall not exceed three hundred feet on each side of the discovery shaft, the discovery shaft being

always equally distant from the side lines of the claims. Nor can a mining district limit the location to a width less than one hundred and fifty feet on either side of the discovery shaft.

SEC. 15.—**Record.**—A discoverer of any mineral lead, lode, ledge or vein, shall, within thirty days after the date of the discovery, record such claim with the recorder of the mining district in which it is situated, if such district be organized, and shall within ninety days from date of discovery cause such claim to be recorded in the office of the County clerk and *ex officio* register of deeds of the county within which such claim may exist, by a location certificate, which shall contain the following facts:

First. The name of the lode claim.

Second. The name or names of the locator or locators.

Third. The date of location.

Fourth. The length of the claim along the vein, measured each way from the centre of the discovery shaft, and the general course of the vein, as far as it is known.

Fifth. The amount of surface ground claimed on either side of the centre of the discovery shaft or discovery workings.

Sixth. A description of the claim by such designation of natural or fixed objects, or, if upon ground surveyed by the United States system of land survey, by reference to section or quarter section corners, as shall identify the claim beyond question.

SEC. 16.—**Certificate.**—Any certificate of the location of the lode claim which shall not fully contain all the requirements named in the preceding section, together with such other description as shall identify the lode or claim with reasonable certainty, shall be void.

SEC. 17.—**Designation of Location.**—Before the filing of a location certificate in the office of the county clerk, and *ex officio* register of deeds, the discoverer of any lode, vein or fissure shall designate the location thereof, as follows:

First. By sinking a shaft upon the discovered lode or fissure to the depth of ten feet from the lowest part of the rim of such shaft at the surface.

Second. By posting at the point of discovery, on the surface, a plain sign or notice, containing the name of the lode or claim, the name of the discoverer or locator, and the date of such discovery.

Third. By marking the surface boundaries of the claim, which shall be marked by six substantial monuments of stone or posts, hewed or marked on the side or sides, which face is toward the claim and sunk in the ground, one at each corner, and one at the centre of each side line, and when thus marking the boundaries of a claim, if any one or more of such posts or monuments of stone shall fall by necessity upon precipitous ground, where the proper placing of it is impracticable, or dangerous to life or limb, it shall be lawful to place any such post or monument of stone at the nearest point, properly marked to designate its right place; *Provided*, That no right to such lode or claim, or its possession or enjoyment, shall be given to any person or persons, unless such person or persons shall discover in said claim, mineral bearing rock in place.

SEC. 18.—**Tunnel.**—Any open cut which shall cut the vein ten feet in length, and with face ten feet in height, or any cross cut tun-

nel, or tunnel on the vein ten feet in length, which shall cut the vein ten feet below the surface, measured from the bottom of such tunnel, shall hold such lode the same as if a discovery shaft were sunk thereon.

SEC. 19.—**Discovery Shaft.**—The discoverer of any mineral lode or vein in this territory shall have the period of ninety days from the date of discovering such lode or vein, in which to sink a discovery shaft thereon.

SEC. 20.—**Locator's Rights.**—The locators of all mining locations heretofore made, or which shall hereafter be made, on any mineral vein, lode or ledge, situated on the public domain, their heirs and assigns, shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations, and of all veins, lodes and ledges throughout their entire depth, the top or apex of which lies inside of such surface lines extended downward vertically, although such veins, lodes and ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical lines of such surface locations. But their right of possession to such outside parts of such veins or ledges shall be confined to such portions thereof as lie between vertical planes drawn downward as above described through the end lines of their locations, so continued in their own direction that such planes will intersect such exterior parts of such veins or ledges. And nothing in this section shall authorize a locator or possessor of a vein or lode which extends in its downward course beyond the vertical lines of his claim, to enter upon the surface of a claim owned or possessed by another.

SEC. 21.—**Relocation.**—Any abandoned lode, vein, or strata claim may be relocated, and such relocation shall be perfected by sinking a new discovery shaft, and by fixing new boundaries in the same manner as provided for in the location of a new claim; or the relocator may sink the original discovery shaft ten feet deeper than it was at the time of its abandonment, and erect new, or adopt the old boundaries, renewing the posts or monuments of stone if removed or destroyed. In either event, a new location stake shall be fixed. The location certificate of an abandoned claim may state that the whole or any part of the new location is located as an abandoned claim.

SEC. 22.—**Placer Record.**—That hereafter the discoverer of any placer claim shall, within thirty days of the date of discovery, record such claim with the recorder of the mining district in which it is situated, if such district be organized; and shall, within ninety days from the date of discovery, cause to be recorded such claim within the office of the recorder of deeds of the county within which such claim may exist, by a location certificate, which shall contain in either or both cases, the following facts:

First. The name of the claim, designating it as a placer claim.

Second. The name or names of the locator or locators thereof.

Third. The date of location.

Fourth. The number of feet or acres thus claimed.

Fifth. A description of the claim by such designation of natural or fixed objects as shall identify the claim beyond question. Before filing such location certificate, the discoverer shall locate his claim; first, by securely fixing upon such claim a notice in plain painted, printed or written letters, containing the name of the claim, the name of the

locator or locators, the date of discovery, and the number of feet or acres claimed; second, by designating the surface boundaries by substantial posts or stone monuments at each corner of the claim.

SEC. 23.—**Placer Expenditure.**—(1) For every placer claim, assessment work as hereinafter provided shall be done during each and every calendar year after the first day of January following the date of location. Such assessment work shall consist in manual labor, permanent improvements made on the claim in buildings, roads, or ditches made for the benefit of working such claim, or after any manner, so long as the work done accrues to the improvement of the claim, or shows good faith and intention on the part of the owner or owners, and their intention to hold possession of said claim.

(2) On a placer claim of an area of one hundred and sixty acres heretofore or hereafter located in this territory and not situated in an organized district, not less than one hundred dollars' worth of assessment work shall be performed during each calendar year, from the first day of January after the date of location. On every placer mining claim so located, of less than one hundred and sixty acres, the amount of annual assessment work shall be at the rate of sixty-two and one-half cents per acre for each and every acre and fraction thereof. *Provided*, That the total amount to be annually expended be in no case less than fifteen dollars.

(3) When two or more placer mining claims lie contiguously, and are owned by the same person, persons, company or corporation, the yearly expenditure of labor and improvements required on each of such claims may be made upon any one of such contiguous claims if the owner or owners shall thus prefer.

(4) But where such placer claims are situated in an organized mining district, or if they are finally embraced in such a district, then the amount of assessment work and the manner of its accomplishment shall be regulated entirely by the district laws, whether the amount of work required annually be greater or less than the amount hereinbefore set forth as required of placer claims not located in such districts.

(5) Upon the failure of the owners to do or have done the assessment work required within the time above stated, such claim or claims upon which such work has not been completed, shall thereafter be opened to re-location on or after the first day of January of any year after such labor or improvements should have been done, in the same manner and on the same terms as if no location thereof had ever been made: *Provided*, That the original locators, their heirs, assigns or legal representatives, have not resumed work upon such claim or claims after failure, and before any subsequent location has been made.

(6) Upon completion of the required assessment work of any mining claim, the owner or owners or agent of said owner or owners shall cause to be made by some person engaged in performing the work, an affidavit setting forth that the required amount of work was performed, which affidavit shall within thirty days after the completion of the work be recorded in the office of the recorder of the district in which such claim is situated, if such be organized, or if such district be not organized, such affidavit shall within sixty days of completion of the work be filed for record in the office of the recorder and register of deeds of the county in which such claim is located.

SEC. 24.—**Patent.**—When any person, persons or association, they and their grantors, have held and worked their placer claims in conformance of the laws of this territory and the regulations of the mining district in which such claim exists, if such be organized, for five successive years after the first day of January succeeding the date of location, then such person, persons, or association, they and their grantors, shall be entitled to proceed to obtain a patent for their claims from the United States without performing further work; but where such person, persons or association, they or their grantors, desire to obtain a United States patent before the expiration of five years from the date hereinbefore mentioned, they shall be required to expend at least five hundred dollars' worth of work upon a placer claim.

SEC. 25—**Coal Mines.**—Nothing in this act shall apply to the working of coal mines.

SEC. 26.—**Repeal.**—That chapter one, title thirty, of the Revised Statutes of Wyoming, and all other acts or parts of acts in conflict with the provisions of this act, be, and are hereby, repealed.

SEC. 27.—**Take Effect.**—This act shall take effect and be in force from and after its passage.

Approved March 6, 1888.

Laws of 1888—p. 83.

Mines and Mining.—Amendment.

AN ACT *to amend and re-enact section fifteen and section nineteen of chapter forty, of the session laws of eighteen hundred and eighty-eight, entitled, "An act to repeal and re-enact chapter one, title thirty of the Revised Statutes of Wyoming," approved March sixth, eighteen hundred and eighty-eight.*

SEC. 1.—**Location Record.**—That section fifteen of chapter forty of the session laws of eighteen hundred and eighty-eight, entitled, "An Act to repeal and re-enact chapter one, title thirty, of the Revised Statutes of Wyoming," approved March sixth, eighteen hundred and eighty-eight, be, and is, hereby amended and re-enacted so as to read as follows: "A discoverer of any mineral, lead, lode, ledge or vein shall, within ninety days of the date of the discovery, record such claim with the recorder of the mining district in which it is situated, if such district be organized, and shall within one hundred and twenty days from date of discovery cause such claim to be recorded within the office of the county clerk and *ex officio* register of deeds of the county within which such claim may exist, by a location certificate which shall contain the following facts:

First. The name of the lode claim.

Second. The name or names of the locator or locators.

Third. The date of location.

Fourth. The length of the claim along the vein measured each way from the centre of the discovery shaft and the general course of the vein, as far as it is known.

Fifth. The amount of surface ground claimed on either side of the center of the discovery shaft or discovery workings.

Sixth. A description of the claim by such designation of natural or fixed objects, or if upon ground surveyed by the United States system

of land survey, by reference to section or quarter section corners, as shall identify the claim beyond question.

SEC. 2.—That section nineteen of chapter forty of the session laws of eighteen hundred and eighty-eight, entitled, "**Discovery Shaft.**—An Act to repeal and re-enact chapter one, title thirty of the Revised Statutes of Wyoming, approved March sixth, eighteen hundred and eighty-eight, be, and is, hereby amended and re-enacted so as to read as follows: "The discoverer of any mineral, lode, or vein in this state shall have the period of one hundred and twenty days from the date of discovering such lode or vein in which to sink a discovery shaft thereon."

SEC. 3.—**Take Effect.**—This Act shall take effect and be in force from and after its passage.

Approved January 9, 1891.

Laws of 1890–91—p. 179.

Mine Location Certificates—Amendment.

SECTION 1. That Sec. 1 of Chap. 46 of the session laws of the State of Wyoming, passed by the First State Legislature, entitled, "An Act to amend and re-enact Sec. 15 and Sec. 19 of Chap. 40 of the Session Laws of 1888, entitled, 'An Act to repeal and re-enact Chap. 1, Title 30, of the Revised Statutes of Wyoming,' approved March 6th, 1888," approved Jan. 9, 1891, be and the same is hereby amended and re-enacted so as to read as follows:

SEC. 15. **Contents of Location Certificate.**—A discoverer of any mineral lead, lode, ledge or vein shall, within sixty days from the date of discovery, cause such claim to be recorded in the office of the county clerk and *ex-officio* register of deeds of the county within which such claim may exist, by a location certificate which shall contain the following facts:

First. The name of the lode claim.

Second. The name or names of the locator or locators.

Third. The date of location.

Fourth. The length of the claim along the vein, measured each way from the centre of the discovery shaft, and the general course of the vein as far as it is known.

Fifth. The amount of surface ground claimed on either side of the centre of the discovery shaft or discovery workings.

Sixth. A description of the claim by such designation of natural or fixed objects, or if upon ground surveyed by the United States system of land survey, by reference to section or quarter-section corners, as shall identify the claim beyond question.

SEC. 19. **Discovery Shaft.**—The discoverer of any mineral lode or vein in this State shall have the period of sixty days from the date of discovering such lode or vein in which to sink a discovery shaft thereon.

Approved Feb. 21, 1895. Laws of 1895–96, page 246.

CANADA AND NORTHWEST TERRITORY.

Revised and Amended Regulations. Approved by the Lieutenant-Governor in Council, April 7th, 1899.

1. Any person may explore for minerals on any Crown Lands not for the time being marked or staked out and occupied, except on such lands as by the Lieutenant-Governor in Council may have been withdrawn from sale, location or exploration as being valuable for their pine timber or for any other reason.

2. Where Crown Lands are situated within a Mining Division they may be occupied as Mining Claims under miners' licenses.

3. The Lieutenant-Governor may appoint for every Mining Division or for any part thereof an Inspector, who shall be an officer of the Bureau of Mines.

4. Every Inspector shall have power to enter, inspect and examine any mine or portion thereof or works connected therewith relating to the health and safety of the persons employed in or about the mines or works, and to give notice to the owner or agent in writing of any particulars in which he considers such mine or works, or any portion thereof, or any matter, thing or practice, to be dangerous or defective, and to require the same to be remedied within the period of time named in such notice; and on the occasion of any examination or inspection of a mine the owner shall produce to the Inspector, if required so to do, an accurate plan of the workings thereof up to the time of such inspection, and also shall permit the Inspector to take a copy or tracing thereof.

5. Every Inspector shall be *ex-officio* a Justice of the Peace of the county or united counties, district or districts which a mining Division comprehends or includes, in whole or in part, or in which or in any portion of which a Mining Division lies.

6. Every Inspector shall have power, within the Mining Division for which he has been appointed, to settle summarily all disputes between licensees as to the existence or forfeiture of mining claims, and the extent and boundary thereof, and as to the use of water and access thereto, and generally to settle all difficulties, matters or questions which may arise between licensees; and the decision of the Inspector in all such cases shall be final, except where otherwise provided by the Mines Act, or where another tribunal is appointed under authority of the Act; and no case under the Act shall be removed into any Court by *certiorari*.

7. Every Inspector of a Mining Division appointed under the Mines Act may appoint any number of constables not exceeding four; and the persons so appointed shall be constituted constables and peace officers for the purposes of the Act for and during the terms and within the Mining Divisions for which they are appointed.

8. No person shall be appointed or authorized to act as an Inspector who practices, or acts, or is a partner of any person who acts as a mining agent, or who is employed by the owners of or is interested in any mine.

9. The Director of the Bureau of Mines shall have all the powers, rights and authority throughout the Province which an Inspector has or may exercise in any Mining Division, and such other powers, rights and authority for the carrying out of the provisions of the Mines Act as shall be assigned to him by regulation.

10. No Director, Inspector or other officer appointed under the Mines Act shall directly or indirectly purchase or become interested in any Crown lands or mining claim; and any such purchase or interest shall be void; and if any officer violates this regulation he shall forfeit his office and be liable in addition to a penalty of $500 for every such offence, to be recovered in an action by any person who sues for the same.

11. The Lieutenant-Governor in Council may by Order declare any tract of country therein described to be a Mining Division; and by any subsequent Order in Council may add to or diminish the limits of the Division, or may otherwise amend any such Order, or may cancel the same.

12. On payment of a fee of $10, or such other sum as may be fixed by regulation, the Director of the Bureau of Mines (or the Inspector of a Division when so authorized by the Commissioner of Crown Lands) may grant to any person, registered partnership, or mining company incorporated under the laws of the Province applying therefor a license to be called a "miner's license," which shall be in force for one year from the date thereof, and shall not be transferable except with the consent of the Director of the Bureau or the Inspector of the Division upon payment of a fee of $5.

13. The person, partnership or company named in a license shall be called the "licensee," and upon payment of the fee fixed by law or regulation, such licensee shall have the right to renewal if application is made therefor before the expiration of the license or within ten days thereafter.

14. Every licensee shall produce and exhibit his license to the Inspector for the Division, and prove to the satisfaction of the Inspector that it is in force, at the time of recording his claim, and at any other time when required by the Inspector so to do.

15. A miner's license shall authorize the licensee to explore any portion of the Mining Division named in his license, and to mine during one year from the date of the license on any mining claim marked or staked out by such licensee on Crown lands, and he may employ any person to assist him in working such claim, or may organize a company to work the same, but no licensee shall have the right to cut down or use any timber which may be upon his claim except for purposes of building, fencing or fuel, or other purposes necessary for working the mine upon the said claim.

16. A licensee who discovers a vein, lode or other deposit of ore or mineral in place within the Division mentioned in his license shall have the right to mark or stake out thereon a mining claim, providing that it is not included in a claim occupied by another licensee, or is not on Crown lands withdrawn from location or exploration, or on lands the minerals and mining rights whereof have been reserved by the Crown; and he shall have the right to work the same, or he may transfer his interest therein to another licensee upon payment of a fee of $5 to the Inspector of the Division, who shall record the transfer in his book.

17. If the working conditions have been complied with as hereinafter required for a period of four years on a claim of twenty chains square, or for three years on a claim of fifteen chains square or less, or when the equivalent of such working conditions has been complied with in a less period of time in the respective cases, the licensee may apply for and obtain a certificate of full performance of the working conditions for the claim free from any further working conditions, renewal fee or miner's license to work the same, and also a patent or lease for the land embraced in the claim, free from any further working conditions and miner's license to work the same, upon a survey thereof being made and filed according to section 27 of *The Mines Act*, R. S. O. 1897, the boundary lines in each survey to follow the courses of the lines of the claim as originally staked out and recorded, or as the lines may have subsequently been altered, changed or corrected by the Inspector, and upon payment therefor to the Department of Crown Lands of the purchase price or first year's rental at a rate per acre as provided in sections 31 and 35 respectively of the said Act; and the time when the royalties may begin to be imposed or collected upon ores or minerals mined, wrought or taken from a claim so patented or leased shall be reckoned from the date of recording such claim in the Inspector's office. The Commissioner of Crown Lands in granting patents under this regulation may grant at the same price to the owner of a claim any contiguous fraction or piece of land not staked of a less size than ten acres if surrounded by staked claims.

18. A mining claim shall be marked or staked out by planting a discovery post of wood or iron (on which is written or stamped the name of the licensee, number of his license, and date of his discovery) upon an outcropping or show of ore or mineral in place within the boundaries of the claim, and by planting at each of the four corners a post of wood or iron in the order following, viz.: No. I. at the northeast corner, No. II. at the southeast corner, No. III. at the southwest corner, and No. IV. at the northwest corner, the number in each case to be on the side of the post towards the post which follows it in the order in which they are named.

19. If one or more corners of a claim fall in any situation where the nature or shape of the ground renders the planting of a post or posts impracticable, such corner or corners may be indicated by placing at the nearest suitable point a witness post, which in that case shall contain the same marks as those prescribed for corner posts, together with the letters "W. P." (witness post) and an indication of the bearing and distance of the site of the true corner from such witness post.

20. Where there are standing trees upon a mining claim so staked out, the licensee shall be required to blaze the trees and cut the underbrush along the boundary lines of the claim, and also along a line from the first corner post to the discovery post.

21. A mining claim shall be a square of fifteen chains or 990 feet, horizontal measurement, containing twenty-two and one half acres, or of such other extent, greater or less, but so as not to exceed a square of twenty chains or 1,320 feet, cou-

taining forty acres, and shall be laid out with boundary lines running north and south and east and west astronomically, and the ground included in each claim shall be deemed to be bounded under the surface by lines vertical to the horizon; but an irregular portion of land lying between two or more claims may be staked out with boundaries conterminous thereto, provided that its area shall not exceed forty acres. A valuable water-power lying within the limits of a claim shall not be deemed as part of it for the uses of the licensee.

22. No more than one claim shall be staked out by any individual licensee upon the same vein, lode or deposit of ore or mineral, unless such claim is distant at least sixty chains from the nearest known mine, claim or discovery on the same vein, lode or deposit, but no licensee shall stake out and record in the same Mining Division, within a radius of fifteen miles, more than four claims in one calendar year.

23. For each additional mining claim after the first marked or staked out by a licensee, whether upon the same vein, lode or deposit, or upon another, he shall pay to the Inspector of the Division a fee of $10 a year in advance when recording the same if the area is more than twenty-two and one-half acres, and $6 if it is twenty-two and one-half acres or less, and a like fee in each case shall be paid for every additional claim so held at the time of renewal of the license.

24. Every Inspector of a Mining Division shall keep a book for the recording of mining claims therein, and such book shall be open to inspection by any person on payment of a fee of twenty cents.

25. Every licensee who has marked or staked out a mining claim shall, within thirty days thereafter, supply under oath to the Inspector of the Division an outline sketch or plan thereof, showing the discovery post and corner posts, and the witness posts (if any), and their distances from each other in feet, together with a notice in writing setting forth under oath the name of the licensee and the number of his license, the name (if any) of the claim and its locality as indicated by some general description or statement, the length of the boundary lines if for any cause they are not regular, and the nature of such cause, the situation of the discovery post as indicated by distance and direction from the first corner post, the time when discovery of ore or mineral was made, and when the claim was marked or staked out, and the date of the said notice; and every licensee shall accompany his sketch or plan and notice with an affidavit showing the discovery of valuable ore or mineral upon the claim by or on behalf of such licensee, and that he has no knowledge and has never heard of any adverse claim by reason of prior discovery or otherwise.

26. The Inspector shall forthwith enter in his book the particulars of the notice of claim presented by every licensee, and shall file the notice, sketch or plan and affidavit with the records of his office, and if there is no dispute as to the rights of the licensee to the claim by reason of prior discovery or otherwise, the Inspector may at the expiration of ninety days from the date of the record thereof grant to the licensee a certificate of such record.

27. If the licensee fails to comply with the provisions of Regulation 25 so far as they relate to him, or if, having complied with them, he or any person in his behalf shall remove any post for the purpose of changing the boundaries after the plan and notice have been filed, the mining claim marked or staked out by him shall be deemed to be forfeited and abandoned, and all right of the licensee therein shall cease.

28. A mining claim shall also be deemed to be forfeited and abandoned, and all right of the licensee therein shall cease in case the miner's license has run out and has not been renewed, or if the annual fee for a claim has not been prepaid, or if $150 has not been expended upon each claim taken up except as hereinafter provided in stripping, or in opening up mines, in sinking shafts, or in other actual mining operations, exclusive of all houses, roads and other like improvements in every calendar year, and the said expenditure shall consist of labor actually performed by grown men to be computed at the rate of $2 per man per day. Nevertheless it shall be competent for the licensee to prove that during one or more preceding years the extent of mining operations carried on has been adequate to cover the requirements for the year in default, in which case the claim shall not be cancelled, and the licensee may also defeat forfeiture by an undertaking with satisfactory security to expend the full amount of labor required for working conditions within the next succeeding year, including the operations in default.

29. For every five claims or less held by the same licensee or by different persons agreeing to combine their mining operations within a radius of one mile, all such

mining operations may be carried on upon one of the claims; but notice of an intention to carry on such operations must be filed with the Inspector, and a record of all mining operations carried on by a licensee during his license year verified by oath shall be filed with the Inspector, who shall enter an abstract thereof in his book.

30. A licensee may at any time abandon a mining claim by giving notice in writing to the Inspector of the Mining Division of his intention so to do, and from the date of the record of such notice in the Inspector's book all interest of the licensee in such claim shall cease.

31. A party wall at least fifteen feet thick (seven and one-half feet on each side of the boundary lines) shall be left between adjoining claims on Crown lands, which shall be used in common by all parties as a roadway for all purposes, and shall not be obstructed by any person throwing soil, stone or other material thereon; and if it is found necessary or expedient to remove such party wall the person so removing it shall, if required, construct a new roadway in no wise more difficult of approach than the one destroyed by the removal of the party wall; and every person obstructing a party wall or failing to construct a new roadway in place of the one destroyed shall be liable to a fine of not more than $5 and costs, or in default to be imprisoned for any period not exceeding one month.

32. No person mining upon Crown lands shall cause damage or injury to the holder of another claim by throwing earth, clay, stones or other material thereon, or by causing or allowing water to flow into or upon such other claim from his own, under a penalty of not more than $5 and costs, and in default of payment he may be imprisoned for any period not more than one month.

33. Any person who removes or disturbs with intent to remove any stake, picket or other mark placed under the provisions of the Mines Act shall forfeit and pay a sum not exceeding $20 and costs; and in default of payment may be imprisoned for any period not exceeding one month.

34. Any person contravening Part III. of the Mines Act or any rule or regulation made under it, in any case where no other penalty or punishment is imposed, shall for every day on which such contravention occurs, or continues, or is repeated, incur a fine of not more than $20 and costs; and in default of payment may be imprisoned for a period not exceeding one month.

35. Every person who pulls down, injures or defaces any rules, notice or abstract posted up by the owner or agent of a mine shall be guilty of an offence against the Mines Act.

36. Every person who wilfully obstructs an Inspector in the execution of his duty under the Mines Act, and every owner or agent of a mine who refuses or neglects to furnish to the Inspector the means necessary for making an entry, inspection, examination or enquiry under the Mines Act in relation to such mine shall be deemed to be guilty of an offence against the Act.

37. Every Inspector of a Mining Division may convict upon view of any of the offences punishable under the provisions of Part III. of the Mines Act or any regulations made thereunder.

38. The Lieutenant-Governor in Council may, as often as occasion requires, declare by proclamation that he deems it necessary that the Act respecting Riots near Public Works (R. S. O. 1897, chap. 38) shall, so far as the provisions therein are applicable, be in force within any Mining Division; and upon and after the day to be named in any such proclamation, section 1 and sections 3 to 11, inclusive, of said Act, so far as the provisions thereof can be applied therein, shall take effect within the Mining Division designated in the proclamation; and the provisions of the said Act shall apply to all persons employed in any mines, or in mining within the limits of such Division, as fully and effectually to all intents and purposes as if the persons so employed had been specially mentioned and referred to in the said Act.

39. All the provisions of Part IV. of the Mines Act, R. S. O., 1897, being the Part under the heading of Mining Regulations, shall apply in every particular to all mines and other openings from which ore or mineral of any kind or class is raised or taken, and to all works for smelting, milling or otherwise treating ores or mineral for any economic objects, which are situated within the limits of a mining division.

DETERMINATION OF MINERALS.

Chemical Elements.

Ninety-nine hundredths of the earth's crust is composed of less than sixteen elements and their chemical and physical compounds. An element is a primary substance. It cannot be made by uniting different things, nor can it be separated into anything unlike itself. A compound is made up of two or more elements. A chemical compound generally is one wherein the things composing it are so changed as not to be recognized by one or more of the senses of sight, taste, touch, or smell. A physical compound generally is one wherein the substances composing it are unchanged, or so slightly changed as to be observed without difficulty. To illustrate, water is the chemical union of oxygen and hydrogen, invisible gases. Common salt is a white substance composed chemically of a green gas (chlorine) and a silvery metal (sodium). On the other hand, if salt and iron filings be placed together and thoroughly mixed, the eye can easily tell the iron from the salt. If sugar be dissolved in a cup of water, the water looks unchanged, and the sense of taste can detect the sugar. The first two are chemical compounds, the last two physical.

Thirty-six Elements.*

Non-metallic Elements. Gases.—Oxygen, Hydrogen, Nitrogen, Chlorine, Fluorine. *Liquid.*—Bromine. *Solids.*—Silicon, Carbon, Sulphur, Phosphorus, Iodine, Boron.

Metals and Metalloids.—Gold, Silver, Copper, Mercury (Quicksilver), Lead, Tin, Zinc, Nickel, Iron, Aluminium, Antimony, Arsenic, Barium, Bismuth, Cadmium, Calcium, Chromium, Cobalt, Magnesium, Manganese, Platinum, Potassium, Sodium, Strontium.

Very few elements are found pure in the earth. Nearly all occur as compounds.

Oxygen is the great compounder. Oxygen one-fifth mixed with nitrogen four-fifths, makes the air about us. It chemically unites with every known element except fluorine, forms one-half the earth's crust, eight-ninths of water, four-fifths of vegetables (by weight), and three-fourths of animals (by weight).

Oxygen united with the non-metallic elements forms Acids, for example, Sulphuric Acid, Nitric Acid. With the other elements it forms Bases. Acids and Bases united, form most of the Minerals. Chemical composition is indicated by the use of the terminations *ide* and *ate*. *Ide* indicates the union of two elements. *Ate* shows at least three elements, one of which is oxygen, and indicates a compound of an acid with a base.

Sodium Chloride (salt) is a union of sodium and chlorine. Silver Sulphide, sulphur and silver. Copper Oxide, copper and oxygen. Iron Sulphate (green vitriol) shows that oxygen is united with iron and sulphur. Calcium Carbonate (limestone) is composed of calcium, carbon and oxygen; that is, of lime and carbonic acid.

* About seventy elements are recognized by chemists.

Hydrogen forms one-ninth part of water. This gas is the lightest of known substances. It burns freely with a bluish flame.

Nitrogen makes 80 per cent. of the atmosphere, yet by itself destroys animal life.

Chlorine is 2½ times as heavy as air, and united with sodium forms common salt. It is a useful element in other compounds.

Fluorine forms with calcium fluor spar, and with hydrogen hydrofluoric (fluohydric) acid, used to etch on glass.

Silicon combined with oxygen, forms silica or quartz.

Carbon, pure, is a solid, and forms the principal part of coal, plumbago and bitumen. Charcoal is almost pure carbon. Diamond is pure carbon crystallized. United with oxygen it forms carbonic acid, and this acid, in combination, forms a class of minerals called carbonates. Limestone is carbonate of lime.

Sulphur is a yellow brittle solid. It is most abundant in volcanic regions. Combined with metals, it forms a class of minerals called sulphurets or sulphides.

Phosphorus is a white, waxy substance. It is quite abundant in nature in combinations. With lime and oxygen it forms the phosphate of lime.

Aluminium is found only in compounds. With oxygen it forms alumina, of which the gems ruby and sapphire are pure specimens. It largely constitutes clay and feldspar.

Potassium is one of the lightest of metals. With oxygen it makes potassa or potash.

Sodium with oxygen forms soda.

Calcium with oxygen makes lime.

Magnesium with oxygen forms magnesia, an abundant substance in the composition of many rocks.

The other elements are either well known or would require too much space for description.

Mineral and Rock Defined.

A mineral is an element or two or more elements chemically united as found in nature. Water is a mineral. A rock generally lacks definite chemical composition, and usually consists of two or more minerals physically united or mixed, and found in nature. If a man makes a hard substance by mixing sand and cement, it is not a rock or a mineral, because not found in nature.

Scientists usually distinguish minerals from rocks in their names. The names of minerals usually end in *ite*, the names of rocks in *yte*. Halite is the mineral common salt. Trachyte is a common rock in mining regions. Dioryte, Phonolyte, Doleryte, are rocks. The rock well known as Granite will probably maintain its old spelling. There are about 700 well known minerals; of these 200 are *ides*, 200 are silicates, and 300 are other *ates*—sulphates, etc.

Kinds of Rocks.

Dana divides the kinds of rocks into three classes:

1. Fragmental Rocks—except limestones.
2. Limestones or Calcareous Rocks.
3. Crystalline Rocks—except limestones.

The First or Fragmental Class

Embraces 1. *Conglomerate*, made up of pebbles and boulders. 2. *Grit*, coarse sand stone. 3. *Sandstone*. 4. *Sand-Rock*, made of sand not siliceous. 5. *Shale*, uneven slaty rock of varied colors. 6. *Argillyte*, flagstone. 7. *Tufa*, volcanic sand-rock. 8.

Sand and Gravel. 9. *Green Sand.* 10. *Clay.* 11. *Alluvium Silt and Till.* 12. *Tripolyte*, infusorial earth.

The Second or Limestone Class

Is divided into two sections, 1. Not Crystalline, and 2. Crystalline.

1. *Massive Limestone.* 2. *Magnesian Limestone or Dolomyte.* 3. *Chalk.* 4. *Marl.* 5. *Travertine*, and 6. *Stalagmites*, are included in the first section.

The Crystalline Limestone embraces 1. *Marble.* 2. *Dolomyte.*

The Third or Crystalline Class

Embraces the siliceous rocks, and all the crystalline rocks except marbles. It is divided into nine groups.

1st Group—Siliceous Rocks.

1. *Quartzyte*, siliceous sandstone. 2. *Itacolumyte*, schistose, mica and quartz grains. 3. *Siliceous Slate.* 4. *Chert*, an impure flint. 5. *Jasper Rock*, flinty red or yellow rock. 6. *Buhrstone*, cellular flinty rock. 7. *Fioryte*, opal or pearl silica.

2d Group—Mica and Potash Feldspar Series.

1. *Granite.* 2. *Granulyte*, contains no mica. 3. *Gneiss*, in layers. 4. *Protogene.* 5. *Mica Schist*, largely of mica. 6. *Hydromica Schist.* 7. *Paragonite Schist*, contains soda. 8. *Minette.* 9. *Greisen.* 10. *Mica-Argillyte*, variety of flagging stone. 11. *Felsyte*, compact orthoclase. 12. *Porcelanyte*, baked clay. 13. *Trachyte*, mainly of feldspar. 14. *Pearlstone*, including *Obsidian* and *Pumice.* 15. *Leucityte.*

3d Group—Mica and Soda, Lime, Feldspar Series.

1. *Kersantyte.* 2. *Kinzigyte.* 3. *Miascyte.* 4. *Ditroyte.* 5. *Phonolyte*, clinkstone.

4th Group—Hornblende and Potash Feldspar Series.

1. *Syenyte*, of which the pyramids are made. 2. *Syenyte Gneiss*, like gneiss, with mica replaced by hornblende. 3. *Hornblende Schist.* 4. *Amphibolyte.* 5. *Actinolyte.* 6. *Unakyte.* 7. *Zircon-Syenyte.* 8. *Foyayte.*

5th Group—Hornblende and Soda, Lime, Feldspar Series.

1. *Dioryte*, greenstone. 2. *Andesyte.* 3. *Labradoryte.* 4. *Corsyte.* 5. *Isenite.* 6. *Euphotide.*

6th Group—Pyroxene and Soda, Lime, Feldspar Series.

1. *Augite-Andesyte.* 2. *Noryte*, gabbro. 3. *Hypersthenyte.* 4. *Doleryte*, basalt, trap. 5. *Eucryte.* 6. *Amphigenyte.* 7. *Nephelinyte.* 8. *Tachylyte.*

7th Group—Pyroxene, Garnet, Epidote and Chrysolite Rocks, with little or no Feldspar.

1. *Pyroxenyte.* 2. *Garnetyte.* 3. *Eclogyte.* 4. *Epidosyte.* 5. *Eulysyte.* 6. *Chrysolyte.* 7. *Lherzolyte.* 8. *Picryte.* 9. *Limburgyte.*

8th Group—Hydrous Magnesian and Aluminous Rocks.

1. *Chlorite-Schist.* 2. *Chlorite-Argillyte.* 3. *Talcose-Schist.* 4. *Steatyte*, soapstone. 5. *Serpentine*, greasy green rock. 6. *Ophiolyte*, verd-antique marble. 7. *Pyrophyllyte*, slate of a soapy feeling.

9th Group—Iron Ore Rock.

1. *Hematyte*, specular iron ore. 2. *Itabyryte*, mica schist with hematyte leaves. 3. *Magnetyte*, magnetic iron ores. 4. *Menaccanyte*, titanic iron ore. 5. *Franklinyte*, with zinc and manganese.

Characteristic Properties of Minerals.

The physical properties of minerals are useful in their determination, and will usually establish their identity without a chemical test. These properties are cleavage, fracture, hardness, tenacity, specific gravity, luster, color, fusibility, transparency, malleability, sectility, elasticity, taste, and odor. The manner of crystallization is also an important characteristic, since each mineral generally is crystallized in only one distinct system.

Hardness.

The scale of hardness is Talc, 1; Rock-salt, 2; Calc Spar, 3; Fluor Spar, 4; Apatite, 5; Feldspar, 6; Quartz, 7; Topaz, 8; Sapphire, 9; Diamond, 10. To illustrate, a mineral that will scratch apatite and is scratched by feldspar, is said to have a hardness between 5 and 6. A simpler scale is suggested, thumb-nail, knife and quartz crystal. The thumb-nail will scratch 1, 2 and 3. A knife will cut from 1 to 6. In fact, many miners trust entirely to their knives to settle the question of hardness. Minerals that will scratch quartz crystals are rare. A still more readily useful scale, represented by ordinary and well-known substances, is as follows: 1, Talc; 2, Rock-salt; 3 to 4, Copper; 4 to 5, Soft Wrought-iron; 5 to 6, untempered or soft steel; 7, Quartz. Higher than this it will not ordinarily be found necessary to test.

Fracture.

Fracture is conchoidal, when the mineral breaks in curved surfaces, like flint; it may also be even, uneven, or hackly. Tendency to fracture regularly on certain planes is called cleavage.

Luster.

Luster may be metallic, adamantine, vitreous, resinous, pearly, or silky; each kind being indicated by its name.

Fusibility.

The fusibility of minerals ranges from those melting in a candle flame to those which can not be fused with the blow-pipe, and this range is represented by a scale of six divisions.

Specific Gravity.

This refers to comparison of weight. Pure water is taken as the standard. The mineral is attached by a slender thread beneath one side of a balance, or under a spring scale, and its weight found. Next let the mineral hang in a glass of water, and as it thus hangs, find again its weight. It will be less than before. Subtract the weight in water from the weight in the air, and divide this difference into the weight in air. For example, suppose a piece of iron in air weighs 460 grains, in water 401.16 grains. $460 - 401.16 = 58.84$, difference. 460 divided by 58.84 equals 7.8, the specific gravity of iron. It will not usually be necessary to determine the specific gravity of a mineral, but simply to compare the weight with that of an equal quantity of some known substance.

Crystallization.

The different forms of crystals are divided into different systems in accordance with

the positions of the axes or direction-lines of the crystals. These systems are six in number, viz.:

(1) The ISOMETRIC SYSTEM, in which the crystal has three eqnal axes each at a right angle with the plane of the other two, for example, the cube, in which form galenite usually occurs.

(2) The TETRAGONAL SYSTEM, in which the crystal has two equal axes at right angles, and an unequal axis at a right angle to the plane of the two first named.

(3) The ORTHORHOMBIC SYSTEM, in which there are three unequal axes, each at a right angle with the plane of the other two.

(4) The MONOCLINIC SYSTEM, in which there are three axes, one of which is inclined to the plane of the other two at an oblique angle (less than a right angle).

(5) The TRICLINIC SYSTEM, in which each of the three axes is inclined to the plane of the others at an oblique angle.

(6) The HEXAGONAL SYSTEM, which has three axes in one plane at equal angles from each other and of equal length, intersected by a vertical axis of unequal length. The crystals of quartz belong to this system.

Testing.

It is assumed in the following description of simple tests that the prospector is chiefly interested to know whether a specimen of mineral is likely to have any commercial value as an ore; and that, if no such value exists, he does not care to further examine it. The word ore, as used here, means either a distinct mineral or a mixture of minerals which contains some metal in sufficient quantity to make it commercially valuable. Most of the valuable minerals are hereafter described briefly.

The precious metals (gold and silver) are usually contained in ordinary shipping ores in such a small proportion that only the most careful tests can discover them, the remainder of the ore being composed of some valueless material, such as quartz or spar, or of less valuable metallic ores. While a comparatively inexperienced man may determine by simple tests when he has a very rich ore of the precious metals, he would not usually be able to detect the presence of the precious metals in an ore which might be valuable, though not extremely rich, and must leave this to the assayer.

The ores of gold and silver present such varieties of character that a description here of all of the modes of occurrence would be impracticable. They often occur with other metallic minerals, and quite often in quartz or other rock which appears to be merely stained or discolored. As a rule, in a region where gold or silver is likely to occur, it is well to test any metaliferous mineral for gold or silver; but it does not follow that they will always be found there.

On the other hand, ores of the non-precious metals, to be valuable, require the presence of a much larger proportion of the metal, and are usually easily determined by a few tests, if not, as in most cases, readily recognizable at sight after being once identified.

Simple tests for determining the presence of each of the more important metals are given below. The following appliances and reagents are required.

Prospector's Outfit for Testing Minerals.

(1) Blow-pipe. These may be had from fifty cents up.

(2) Tallow candle, or alcohol lamp. The candle is sufficient for any ordinary purpose.

(3) Two ounces Sodium Carbonate.
(4) Two ounces pulverized Borax.
(5) Two ounces Bone Ash, fine.
(6) Two ounces Nitric Acid.
(7) Two ounces Hydrochloric Acid.
(8) Eight ounces Quicksilver.
(9) Six inches of fine platinum wire.
(10) A small flat piece of steel about ½″ x 2″ x 2″.
(11) A small hammer.
(12) A small pair of fine-pointed forceps.
(13) Six glass test-tubes, each six inches long.
(14) A small horseshoe magnet, two inches long.
(15) A small magnifying glass.

The bottles should have ground-glass stoppers, should be of uniform size, and have square corners, and should be securely packed so as not to touch each other, in a small wooden box expressly made for them, the depth of which should be just that of the bottles with the stoppers in. The lid should be attached by hinges and fastened with screws or hooks. The entire outfit should cost not over five to ten dollars, and may be made up at any good druggist's in the mining supply towns. The amount of space required for these articles is inconsiderable.

Charcoal, for use with the blow-pipe, may be made when required, and should be well-burned, smooth and close-grained.

Use of the Blow-Pipe.

Try first to obtain a steady stream of air from the lips, inhaling through the nostrils alone, and keeping the cheeks distended all the time with air. Notice that the flame has two parts—an outer yellow one (the oxidizing flame, abbreviated O. F.), and an inner blue one (the reducing flame, abbreviated R. F.). These often produce different results.

The blow-pipe is used in several different ways: to fuse the mineral on charcoal, alone or with fluxes, or to produce a metallic button from it; to oxidize the mineral and cause a coat of the oxide of the base to form upon the charcoal; to make small borax beads to which a small quantity of the mineral may give a distinctive coloring; to ascertain what color, if any, is imparted to the flame by the mineral; and in the hands of an experienced prospector it may even make a fire assay for gold or silver, by reduction with lead and cupellation of the lead button. This latter would be too delicate an operation for a novice to attempt.

It should be remembered that with the small amount of heat available, though concentrated, only a small amount of mineral can be treated. The amounts used should, therefore, be very small; when testing for fusibility, not larger than a pin-head; when used to produce a coat or to form a metallic button, a portion of the powder which can be held on ⅛ inch of the point of a small pen-knife blade; when testing for color in a bead, as much of the fine powder as will stick to one side of a bead about $\frac{1}{16}$ inch in diameter, or smaller.

Simple Tests for Ores of the Valuable Metals.

Suppose you have an unknown metallic compound to be tested by the simple means provided for in the outfit described.

First, note its color, luster, cleavage and comparative hardness by a careful examination.

Second, take a small sample of the ore and rub it to a fine powder on the flat steel with the hammer. Take a small quantity of the powder on the point of a knife-blade, mix with two parts of carbonate of soda; place this in a small hollow made in the surface of a flat piece of charcoal; direct first the point of a blue flame upon it for several minutes, until the entire mass is fused. Remove the entire mass from the charcoal, and pulverize it upon the steel. If metallic buttons are found in the fused mass they may be either of the following metals: (1) *iron*, *nickel* or *cobalt*, which are all attracted by the magnet, and are distinguished one from the other by the color imparted to a borax bead; (2) *copper*, distinguished by its color, and by the color given to a bead or to a flame; (3) *tellurium*, *bismuth*, *lead*, *zinc* or *antimony*, all of which volatilize more or less completely, and may be recognized by their sublimates or coats upon the charcoal; and finally, (4) *gold*, *silver* or *tin*. One or more of the metals named may be found in the globules. Other metals would either not reduce to buttons ordinarily, or would entirely volatilize.

Third, to test for coating on charcoal. Collect the buttons found in a hollow on the flat surface of the coal and direct the point of the outer or yellow blow-pipe flame upon them for a short time. Observe whether fumes are given off which coat the charcoal around the button. Do not confuse white ashes on the coal with a white coat. *Lead* will give a sulphur-yellow coat. This is a most definite test. *Zinc* is distinguished by a heavy white coat, which easily disappears; *antimony* gives a bluish-white coat and heavy white fumes; *bismuth* gives a dark yellow coat, which collects near the ore; *tin* will give a very small ring of white coat near the ore; *tellurium* will give a white or yellowish coat, which volatilizes in the reducing flame, giving to the flame a greenish color.

Fourth, if not satisfactorily determined by the coat, form another button of the metal. Remove the button from the attached slag and flatten on the steel. Place about twenty drops of nitric acid, diluted one-half with pure water, in a thin test tube; put the button in it and heat gently over the candle flame. If it does not dissolve the button is, at least in part, gold. If it dissolve, it may be any of the others. [A button of gold or silver is easily absorbed by an excess of quicksilver also.] If the button contains any large proportion of gold, with silver, it will be yellowish in color, and the acid will scarcely attack it; but if it have two-thirds or more of silver, the color of the gold is hardly perceptible. In the latter case the button dissolves readily in the acid, leaving the gold in brown flakes.

Fifth, test for the color produced in a clear borax bead. Take the piece of fine platinum wire, bend $\frac{1}{8}$ inch of the end over so as to form a small hook. Heat the wire in the candle flame and dip it while hot in the pulverized borax. Melt what adheres to it into a clear bead, in the blow-pipe flame. The bead will be $\frac{1}{10}$ inch to $\frac{1}{8}$ inch in diameter. Dip this lightly, while warm and soft, into the powdered mineral. A small part of the powder will adhere. Direct the point of yellow flame upon the bead for a short time until the whole is completely fused again. Note the color of the bead. Then direct the point of the blue flame alone upon it for a short time and again note the color.

Copper will give a clear green bead in the outer flame, and an opaque bead of copper-red color in the inner.

Silver, *zinc*, *tin* and *lead* will give colorless beads, or nearly so, in the outer flame.

Iron will give a reddish-brown color in the outer flame when hot, which is yellow when cool. In the inner flame it gives a bottle-green bead.

Manganese will give a bead which is violet when hot and red to brown when cold

in the outer flame.—If an ore containing manganese is fused with a carbonate of soda bead on the platinum wire, the color of the bead will be pea-green.

Nickel gives red to brown in the outer flame, cloudy or grayish in the inner flame.

Cobalt gives a deep blue bead in both flames.

Sixth, test for flame coloration. But few of the metals impart a characteristic color to the flame. To make the test, take a platinum wire which is perfectly clean, moisten the hook on the end slightly, and dip it in the finely pulverized ore. Hold it in the outer flame of the blow-pipe. *Copper* will give to the flame a bright emerald green color. *Antimony* will give a faint greenish-blue. Other colorations produced are: Yellow, sodium; violet, potassium; yellowish-red, lime; yellowish-green, barium; bluish-green, phosphorus; yellowish-green, borates; light-blue, arsenic.

Having made the above six tests, it becomes almost certain, by some definite reaction or want of reaction, as to whether the mineral contains any metal ordinarily valuable.

If the metallic globule contains lead, a more complete test as to its also containing gold or silver is to *cupel* it in a little hollow in the coal, filled with fine bone-ash, previously wet, packed in, hollowed slightly on the surface and allowed to dry. Use only the oxidizing flame, which direct continually on the button. [It is necessary to form a metallic button before beginning the cupellation, as before directed, by fusion with carbonate of soda on charcoal.] Under the oxidizing flame the metals in the button will oxidize, except the gold and silver, and the melted oxides will be absorbed by the porous bone-ash. The precious metals will remain behind alone if the test be carefully made. This is a difficult test to make, and a beginner may not accomplish it.

To test for mercury, heat the sample moderately in the candle flame only, after placing with two parts of soda in a test tube. A coating of mercury will be formed inside of the tube, if contained in the mineral. This may be collected into small globules by gently rapping the tube. To test for sulphur, fuse with sodium carbonate on charcoal, remove and pulverize the mass, place on a bright silver coin and dampen. If sulphur is present the coin will become dark under the mass. Carbonates, or minerals containing carbonic acid, when treated with dilute nitric or hydrochloric acid, will effervesce briskly. This is no indication of value, as the carbonate most often found is limestone.

DESCRIPTIONS OF THE MINERALS ORDINARILY VALUABLE, AND OF SOME OF THE ORDINARY GANGUES.

(1) GANGUES.

These are usually the valueless non-metallic minerals occurring with metallic minerals in an ore deposit; the word may also apply to any valueless mineral interspersed through ore. The most common of these is quartz.

Quartz occurs of nearly every color, and of various degrees of glassy lustre to a dull stone without the slightest glistening. The common grayish cobble-stones of the fields are often quartz, and others are dull red and brown; from these there are gradual transitions to the pellucid quartz crystal that looks like the best of glass. Sandstones and freestones are often wholly quartz, and the seashore sands are mostly of the same material.

Let the first trial of specimens obtained be made with a file, or the point of a knife, or some other means of trying the hardness; if the file makes no impression, there is reason to suspect the mineral is quartz; and if on breaking it, no regular structure or cleavage plane is observed, but it breaks in all directions with a similar surface and a

more or less vitreous lustre, the probability is much strengthened that this conclusion is correct. The blow-pipe may next be used; and if there is no fusion produced by it in a careful trial, there can be little doubt that the specimen is in fact quartz.

Calcite (calcium carbonate), including limestone, is another very common species. If the mineral is rather easily impressible with a file, it may be of this species; if it effervesces freely when placed in a test-tube containing dilute hydrochloric acid, and is finally dissolved, the probability of its being carbonate of lime is increased. If the blow-pipe produces no trace of fusion, but a brilliant light from the fragment before it, but little doubt remains on this point. Crystalline fragments of calcite break with three equal oblique cleavages.

Barite, or Heavy Spar, is also a common gangue. It is usually white, heavy (specific gravity about 4.5), will not dissolve in acid; but when moistened with acid imparts a yellowish-green color to the flame. Hardness is 2.5 to 3.5. It crystallizes usually in flat tubular crystals.

Fluorite, or fluor spar, is less common. It consists of fluoride of calcium. Its hardness is 4. Specific gravity about 3. It is of various colors, commonly yellowish, greenish or blue. It crystallizes usually in cubes.

Numerous other gangues are less common in occurrence.

(2) ORES.

GOLD.

Gold, specific gravity 19.3, is a brilliant, lustrous, heavy metal, of a lordly appearance and magnificent yellow—golden yellow—color. There is but one color to gold, and all the variations from that color simply prove the presence of alloys and the impurity of the gold, or whatever goes by that name. It is a saying among the miners that "a great many other things are mistaken for gold, but gold is never mistaken for anything else."

Gold occurs either in quartz veins, intersecting usually metamorphic slates (these mines are called quartz mines); or it is found in gravel drifts in the vicinity of these, in what are called placer mines. Originally it existed in the quartz veins, usually associated with metallic sulphides, particularly the sulphide of iron (pyrite, sometimes called fool's gold). If the pyrite be dissolved in nitric acid, the gold is left in minute threads and crystals.

Quartz that looks like coarse grained white sugar is a good sign, but clear rock crystal quartz, or quartz with a glassy vitreous lustre, with no grains in its texture, seldom holds gold. The granular quartz in veins, badly stained with iron rust, and full of little sharp-cornered cells with iron dust in them, is the best prospect. The mass of one of these veins may yield from $20 to $50 per ton[1] by the usual rough processes, and yet not a particle of gold can be seen in the rock with the naked eye, and a powerful glass reveals but few specks.

In a gold bearing quartz vein gold is found free in small grains among the cellular quartz as deep as the action of the surface water reaches, often over one hundred feet; but below the reach of the surface agencies it is usually inclosed in the undecomposed sulphides.

Frequently beds of slates will be found pierced in many directions by systems of veins or seams of all sizes, from a mere ribbon set on edge up to many feet in thickness; and where many thin veins are found, the whole mass of rock is crushed, instead of attempting to mine out any one vein. This plan of crushing the whole mass is also used where the slate beds are filled with small grains of quartz and pyrite, or little cells where the pyrite has been oxidized, this slate being simply an old bed of sand, mud, etc., which has been washed down from some earlier rock with a pyrite vein in it. Where such a washed down bed of debris has existed long enough to have become compacted into a rock, it is a gold bearing bed of rock; but where the washing-down process took place in recent times it is a gold bearing bed of mud, clay, sand or gravel. It is a wet or dry "diggings," according to its location above or below water level. Whole hills of sand, gravel and clay may have gold distributed throughout their entire mass, or the gold may be in a "streak" or "lead" running through the hill at a certain height or on the bed rock.

Gold occurs in all these secondary deposits, not as in veins, in particles too fine to be detected, but as "wash" gold in grains from dust size up to the nuggets of many

pounds weight. That this wash gold is derived from the vein gold is a fact acknowledged by all; but how the fine particles became agglomerated into nuggets or grains is an unsolved question.

In the quartz veins, free from sulphur, the gold is sometimes found in grains, nuggets, sheets, or strings, often in crystalline form.

Gold in the sulphides and clays may be so fine as to be really invisible except under a powerful microscope; and these small particles may float away with any current of water that will carry off the mud. One of the great troubles with all water processes is the great waste of gold in the "slimes," these being simply those portions of the vein-stones that have been pulverized too fine to be separated by the use of water; but it is believed that this difficulty has been met by a process using an air current instead of that of water.

Mica, in small flakes, pyrite (sulphide of iron) and chalcopyrite (sulphide of iron and copper), are more often mistaken for gold than are other substances. Mica, however, is much lighter, and usually shows laminations under a strong glass; pyrite is hard, angular and brittle; copper pyrite is soft and brittle and cuts into a dark powder. Gold offers none of these characteristics, but hammers out flat, can be cut into threads without crumbling, has a much higher specific gravity than the other substances, and is insoluble in nitric acid.

From one-half an ounce to one ounce of gold per ton of ore is required under ordinary circumstances to pay the expense of mining and milling, but less is required under the favorable circumstances of a large ore-body with cheap treatment.

Panning. In prospecting for placer gold, or for free gold in the outcrop of a quartz vein, panning is usually employed. A gold pan may be bought at any mining camp. Panning consists in skillfully washing away the lighter gravel or previously-pulverized quartz, and in allowing the gold and heavier material to settle to the angle at the bottom of the pan; and finally, by continuing the same process, in so concentrating the material that the gold is left nearly free from foreign substances. A single flake of gold, obtained from a pan or shovel of ore, is usually called a "color."

Amalgamation. Free gold ores, which may include not only surface or oxidized ores but also sulphide ores, may also be tested by amalgamation. For this purpose it is well to have an iron mortar, holding about two to four quarts, in which the ore is first well pulverized, to the amount of one-half pound or more. Quicksilver is then added; a globule as large as a pea is sufficient unless the ore is quite rich. The quicksilver is then ground with the ore for fifteen or twenty minutes, after which all is poured into a gold pan, and the quicksilver is separated from the residue by panning. Perform this same operation several times, using in all five to ten pounds of the ore, and collecting all of the quicksilver finally into the pan. The quicksilver is then strained through a soft piece of buckskin or chamois skin. If free gold or free silver existed in the ore the amalgam is left in the skin in the shape of a solid mass, of the consistency of putty. This may be placed in a crucible or on a shovel and slowly heated over a fire, or at a blacksmith's forge, finally bringing it to a red heat. The quicksilver is evaporated and the gold remains nearly pure, but combined with some silver and probably copper, if the ore contained those substances. In this shape it is called a "retort." If the ore treated be first weighed and the resulting retort also weighed, a simple proportion will give the ounces of gold yielded per ton. Of course some is lost.

Care should be taken not to inhale the fumes of the quicksilver. The addition of a very small fragment of cyanide of potassium in grinding will render the gold more readily soluble in the quicksilver.

Telluride ores. Sylvanite is a telluride of gold and silver. It is soft (hardness 1.5 to 2); heavy (specific gravity about 8); lustre metallic; color, steel gray to silver white, sometimes yellow. It is called graphic tellurium, because of a resemblance in the arrangement of the crystals to writing characters. It gives a metallic button of gold and silver before the blow-pipe, and a tellurium coating on charcoal.

Nagyagite is a telluride of lead, containing gold and usually silver and copper with sulphur. It is seldom found in America.

Petzite is a telluride of silver and gold. It shows hardness = 2.5; gravity, 8.7 to 9; color, steel gray to iron-black, brittle.

SILVER.

Silver, specific gravity 10.53, is a brilliant pure white metal, of great malleability and ductility. It is harder than gold, but softer than copper, and can be cut with a knife when pure; but a very little alloy hardens it disproportionately. It is found naturally in the metallic state (but never entirely pure), and also in combination with other substances forming ores. The metallic silver, as found native, generally has a slightly darkened and dull looking surface, but reveals its true color when cut or scratched.

Argentite, *Silver glance*, or Sulphide of Silver, gravity 7.0, contains 86 per cent. silver and 14 of sulphur. It is dark grey to blackish in color, dull externally, but showing a vitreous metallic lustre when cut; and can be cut as easily as lead and is slightly malleable—gives off sulphur smell when heated. It is rarely pure, and never forms the entire metallic contents of a vein. Lead veins nearly always contain this ore mixed with the galena.

Ruby Silver, gravity 6 to 6.5, when dark red in color (Pyrargyrite), contains 60 per cent. silver, 20 of antimony, 12 of sulphur, and 8 of oxygen; is almost opaque, has a metallic lustre, and is usually found in crystals. When it is clear transparent red color (Proustite), it is a double sulphide of silver and arsenic, and contains 65 per cent. of silver.

Cerargyrite, *Horn Silver*, gravity 5.5, is chloride of silver, contains 75 per cent, silver and 25 of chlorine. It looks like pearly grey putty or wax, sometimes slightly bluish. The exposed portions on the outcrops of veins look like brown or black cement. It is soft, easily cut, and can be hammered out slightly.

Silver Amalgam, gravity 14, is much heavier than pure silver, as it contains 64 per cent. mercury to 36 of silver. It has a very bright silver-white color, is very soft, and can be cut with a knife. It is an alloy or mechanical combination of two native metals. It is one of the principal sources of silver in South America, but has not yet been extensively found in North America.

Stephanite, sulphur 16, antimony 15, silver 68 per cent. Hardness 2–2.5. Gravity 6.3. Lustre, metallic; color, iron black; fracture, uneven.

Polybasite, sulphur 15, antimony 10, silver 75 per cent. Hardness 2–3. Gravity 6.2. Lustre, metallic; color, iron-black; fracture, uneven.

Hessite, is telluride of silver. Hardness is 2–3.5. Gravity 8.4. Lustre, metallic; color, lead-gray to steel-gray; fracture, even: sectile.

Tetrahedrite, or *Gray Copper Ore*, is properly a copper ore, but often becomes valuable from its containing silver, though it does not always do so. When it contains much silver, it is called *Freibergite*. It varies in color from a light steel-gray to an iron-black. Its hardness is 3 to 4.5; lustre, metallic; fracture, sub-conchoidal and uneven; brittle. It contains varying proportions of Sulphur, Antimony, Arsenic, Copper, Iron and Zinc. The proportion of copper is usually 30 to 40 per cent.

All silver ores are to be looked for in veins in any of the rocks below the coal measures. All sulphide veins of copper, antimony, zinc or lead, need testing for silver, as they are nearly always found associated. The silver may not be in paying quantities, but that can only be asserted positively after testing.

To test mineral for silver, dissolve a piece in nitric acid, pour in strong salt water, and if the resulting white powder should turn black on exposure to sunlight, it contains silver. This test is useful only in minerals containing a considerable quantity of silver.

Silver is more often found in combination with ores of other metals than in its own distinct combinations. Thus it is found often in Tetrahedrite (Gray Copper), Galenite (Sulphide of Lead), Sphalerite (Zinc blende), Chalcopyrite (Copper and Iron Sulphide), and other ores of Lead, Copper, Zinc, Antimony, Arsenic, etc. Pyrite, or Iron Sulphide, more often contains Gold in paying quantities than it does Silver. In these ores it is probable that the Silver is contained in very small and finely-disseminated particles of its own mineral compounds.

In favorable localities, or when combined with lead or copper, as low as 10 to 20 ounces of silver per ton may make a paying ore. Since a ton avoirdupois contains 29,167 ounces troy, it will be seen that the *percentage proportion* of silver required to make a paying ore is very small, and the silver (and gold in greater degree) may, therefore, be imperceptible except under very careful test. Ore containing ¼ to 1 per cent. would be rated as rich silver ore; and $\frac{1}{100}$ of 1 per cent. of gold is a fine ore.

COPPER.

Copper, specific gravity 8.9, is of fine red color, very soft and ductile, takes a high polish, but quickly tarnishes again by coating with oxide and carbonate of copper. Its tenacity is nearly as great as that of iron, but its elasticity is very low. It is found native in grains and masses in nearly all veins carrying copper ores.

Such mines as the Calumet and Hecla, near Lake Superior, where they stamp and wash 800 tons per diem of rock containing 5 per cent. of its weight in *shot copper* or copper dust, are the paying mines. In the early days of copper mining on Lake Superior, a good yield of copper was obtained by small gangs of men washing out the sands and gravels from the stream bottoms below veins, as is done in gold districts; but the business was very small, and soon abandoned for regular mining.

A peculiarity of the Lake Superior copper is that much of it contains silver, not as an alloy regularly combined, but simply disseminated through the mass, in crystals, from the size of a pin-head to that of a walnut.

Cuprite, or Red Oxide of Copper, gravity 5.9, contains 88 per cent. of copper and 12 of oxygen. It is of a deep blood-red color, semi-metallic lustre, and is generally in crystals, either cubic or octagonal. It is found in nearly all copper veins, being a product of the oxidation of some other ore, or of metallic copper itself, but it is not usually the principal ore of a vein.

Melaconite, or Black Oxide of Copper, gravity 5.5, contains 72 per cent. copper and 28 of oxygen, is black, dark blue or brown in color and velvety in appearance. Is found with cuprite in all copper veins, as a result of the oxidation of other ores, and sometimes, as at Ducktown in Tennessee, it is one of the most valuable zones of the mines.

Chalcopyrite, or Copper Pyrites, gravity 4.2, contains properly 35 per cent. of copper, 30 of iron and 35 of sulphur, but the proportions vary. It has a yellow brassy color and bright metallic lnstre, but tarnishes easily. It is quite soft, and can be shaved into powder with a knife. A bright yellow and soft ore is apt to be rich, while a whitish-yellow, dull-colored and hard ore is poor, owing to the greater quantity of iron present. This chalcopyrite is usually accompanied by pyrite; and in general the top of the vein is a brown spongy iron ore for a certain distance, then pyrite, with a little chalcopyrite, and this latter increases downwards.

Chalcocite, Sulphide of Copper, gravity 5.0, contains when pure 79.8 per cent. of copper, and 20 of sulphur. It is usually combined with other sulphides, but it is, nevertheless, a very easy ore to work. It is steel-gray in color, and rather soft and brittle. Occurs in veins with pyrite and chalcopyrite, either massive and crystalline or granular.

Bornite, or Erubescite, contains normally, sulphur 28 per cent., iron 16 per cent., copper 56 per cent. It has a metallic lustre and a color varying between purple-red and brown, whence it is called Peacock ore. Hardness 3; gravity 5. Brittle. Fracture uneven, showing a copper-red color. It is of common occurrence.

Silicate of Copper, gravity 2.1, contains 30 to 35 per cent. of copper. It is bluish-green in color, resinous or dull glassy lustre and texture, and its fracture is like that of glass, but it is soft and easily cut with a knife, turns black when heated. This is rare, but it is sometimes found in the Southern and Pacific coast mines in large masses accumulated as incrustations at and near the outcrops of the veins of other copper ores.

Malachite, or Green Carbonate of Copper, gravity 4.0, contains 56 per cent. copper, 14 of oxygen, 22 carbonic acid and 8 of water. It resembles green marble with banded or wavy structure, is found in veins of other copper ores, and when in plates of suitable size is valuable for mantels, table tops, vases, and for all sorts of ornamental work. Is is also used in jewelry, and when in large and well shaped pieces, and of beautiful color and texture, it commands a very high price, although as a source of copper it is of no importance.

Azurite, or Blue Carbonate of Copper, gravity 3.8, is of substantially the same composition as malachite, but is of a beautiful blue color, and occurs in nodules and concretions. It is used only as an ornamental material, and can be distinguished from the blue silicate by its clearer and more gem-like appearance, and by the fact that it effervesces with acid, which the silicate does not.

In general: it may be said of copper ores that they are distinguished by liveliness of colors; that they are soft; that they impart their colors to other substances by rubbing, and that they nearly all turn bright green on long exposure.

LEAD.

Lead, specific gravity 11.445, is a soft, bluish-grey metal, of high metallic lustre when freshly cut, but tarnishes almost immediately; leaves a black mark when rubbed on paper; very ductile. It is rarely or never found pure in nature, but is extracted from its ores.

Galena, or Sulphide of Lead, gravity 7.7, contains 86 per cent. Lead to 14 of sulphur; is of leaden-gray color, high metallic lustre, and nearly always is a mass of cubic crystals, which are very brittle and easily powdered into black dust. It melts and gives off sulphurous fumes when heated. It nearly always contains more or less silver, which frequently is enough to pay for extraction; in fact, many of the great silver mines of the world are simply Galena veins, which are worked primarily for the silver, and the lead saved, after reducing the silver, is then sold as a secondary product. Galena is the mother source of all lead, the other ores being the result of reaction on the sulphide by other agents. It occurs primarily in veins, but also in beds and pockets, these being vein materials washed down or dissolved and redeposited. The veins are most frequent in the primary rocks, but they are found all the way up among the formations to the base of the carboniferous, where the veins are larger than in the primaries, but not so frequent. A feature of Galena veins is that in limestone they are largest, and diminish usually through sandstones, and are smallest in the slates of the primaries. The Silurian and Devonian limestones, lying immediately on or separated from the slates by very thin members of the same groups, as in the Mississippi Valley, appear to be the best places to look for Galena veins and deposits, while the great silver-bearing lead deposits of Utah and other western localities *appear* to have very little system in their modes or locations of occurrence.

Cerussite, or Carbonate of Lead, gravity 6.5, contains 77 per cent. of lead, when pure, but is seldom found pure; 60 to 65 per cent. of lead is its practical yield, the balance being carbonic acid, silica, iron, zinc, etc. The pure mineral is in translucent grayish-white crystals, but the *ore* of lead is known as "dry bone," on account of its appearance. It is generally a little porous, of white or yellow or reddish yellow color, and looks much more like masses and cakes of clay than anything else, and, unless its weight reveals its nature, it is apt to be thrown aside. It is found with galena, and is frequently the outside of a mass of which the inside is galena not yet entirely changed to Cerussite, and in such cases the mass looks like compact ashes.

Pyromorphite, or Phosphate of Lead, gravity 6.8, contains 55 or more per cent. of Lead, and is a green or yellow earthy-looking mass, covering cerussite or galena as an incrustation. It is a secondary product, and is chiefly valuable as an indication that galena is to be found below, the pyromorphite generally showing at the outcrop of veins or deposits.

There are Oxides of Lead made artifically for painting purposes, and a Sulphate of Lead which effloresces over galena deposits; and there are other minor occurrences of the compounds of this mineral; but these are all secondary products of galena.

IRON.

Iron, specific gravity 7.78, is a silver-white fibrous and ductile metal, and the most valuable to man of all earth's mineral productions except coal. It is the strongest of all metals, as well as the most universally diffused, some one or other of its ores being found in all the formations. It is susceptible of very high polish, but its affinity for oxygen is so great that it tarnishes very easily, and is never found entirely pure in a state of nature. Masses of nearly pure iron occurring as shooting stars or meteors are found where they have fallen, but are preserved from further oxidation by a glazed surface, caused by the heat from friction with our atmosphere during their rapid passage through it. The iron supply of the world is entirely drawn from the natural ores of this metal.

Magnetite, or Black Oxide of Iron, Loadstone, Magnetic Ore, etc, gravity 5.1, is a proto-sesqui-oxide of iron, in the proportion of 72 per cent. of iron and 28 per cent. of oxygen, when the mineral is unmixed with impurities. It is black in color; has metallic lustre; its powder is black and it occurs crystalline and granular, sometimes earthy and compact, but crumbles easily into coarse black sand, and is attracted by the magnet. It is found principally in veins and beds throughout the primary rocks, and sometimes in the sandstones, etc., lying immediately upon the primaries.

Gray Oxide, gravity 5.0, is the sesqui-oxide, and contains 70 per cent. iron to 30 of oxygen. This ore is the *specular hematite*, is of steel-gray color, of high metallic lustre, and its powder is red. It is brittle and crystalline, and frequently slaty in structure, and is found principally in beds in the primary rocks, or those immediately overlying them, and the black oxide is nearly always in company with it, being of similar early origin.

Red Oxide, gravity 5.0, is also the sesqui-oxide, and contains 70 per cent. of iron to 30 of oxygen, when pure. This ore is properly called *hematite* (meaning blood-red ore), inasmuch as it is red both in mass and in powder. It is of secondary origin, being derived from the foregoing oxide by being powdered, washed off, and re-deposited in secondary beds which retain the red color of the powder from which they were built. This ore is sometimes deposited as regular beds or strata of rock, and for long distances—frequently hundreds of miles—it holds its position as a member of a formation.

Brown Oxide, gravity 4.0, contains 60 per cent. iron, 26 oxygen and 14 of water. Its proper name is *limonite*, and is frequently called brown hematite. It is a hydrated sesqui-oxide of iron, and appears to be derived from the foregoing oxides by being carried off and re-deposited from a *solution*, whereby it enclosed its water of hydration, while the red oxide was simply carried off in *suspension* as powder. The brown oxide is brown, yellow, or purplish-brown or black, but its powder is always yellow. It is generally compact and frequently massive, and like the dry oxides, it often forms regular strata. This ore is rarely gritty, but sometimes granular; and a very pure and valuable variety looks just like a black iron sponge, having a vitreous lustre when broken. Sometimes it occurs in hollow balls, with the interior surface covered with black velvety crystals; and when these balls are fibrous in texture, the fibres radiating from the centre to the circumference, it is called needle ore. Sometimes it is in masses in wet lands, either as concretions, or as masses of hard brown earth, loosely packed, when it is bog ore. It puts on more different appearances than any other ore, and owing to its deposit from solution it has been carried everywhere that water can reach, and may be looked for in all the formations. In one shape or another it is the most valuable of American iron ores.

Carbonate of Iron, gravity 3.5 to 4.0, sometimes called Siderite, Chalybite, Sparry or Spathic Iron, according to circumstances, is of many varieties, but the definite mineral contains 62 per cent. of iron and 38 of carbonic acid. It usually occurs mixed with sand, lime, clay, &c., and is a clay iron stone, properly speaking, in America. It occurs in the secondary and later formations, and is most abundant in the coal measures, but the nodular ores of the tertiary clays, such as those from which the best Baltimore iron is made, are carbonates. It may be of any color or shape from white, gray or yellowish masses to brownish, purple nodules, looking like fragments of exploded shells, or from flattened balls to the full black band ores of the coal measures of Western Kentucky or of England. It is also fonnd in beds intercalated between other rocks, sometimes in a continuous massive formation looking like gray or yellowish limestone, but more frequently the ledge is a mass of flattened balls or kidneys of large size, mixed with smaller balls and grains of the same ore, with a lime cement, and the outcrop of such beds or ledges is generally weathered into brown, spongy-looking masses of limonite. It is not one of the most valuable of American ores, where we have so much more of the richer oxides, but the "Black Band" and the "Clay Band" carbonates of England have heretofore produced more than half the iron supply of the world. In America we use the carbonates chiefly for mixing and tempering the richer oxides.

Pyrite.—Iron Pyrites or Fool's Gold, gravity 5.0, is a bisulphide of iron, and contains 54 per cent. of sulphur to 46 per cent. of iron. It is not an ore of iron, because no economical process of eliminating all the sulphur has yet been discovered, and the merest trace of sulphur in iron renders it worthless for most purposes. The manufacturing chemists, however, make great quantities of sulphur and sulphuric acid, alum and sulphate of iron or copperas out of it, and when heavy veins of this mineral are well located for work and transportation they are worth looking after. The mineral itself is either whitish-yellow or brass colored, is generally a mass of cubic crystalline blocks, and each block breaks up into smaller cubes. These are very hard, will scratch a knife-blade or strike fire with steel like flint; are very brittle, and will give off stifling fumes of sulphuric acid when burned in a candle flame. Pyrite occurs in scattered crystals or masses throughout the coal measures, and sometimes in the coal

itself, in which case its presence diminishes the value of the coal, as iron cannot be worked with it. The principal deposits of Pyrite, however, are in veins in the primary rocks, and frequently such veins extend upwards into whatever rocks immediately overlie the primaries. These veins are nearly always indicated on the surface by spongy masses of brown oxide of iron, as in the case of the carbonates, the outcrop of the vein giving up its sulphur and becoming oxidized by exposure to the weather. Another variety of these Pyritous veins contains arsenic, and the mineral is then called Mispickel. It is of gravity 6.0, contains 34 per cent. iron, 20 of sulphur and 46 of arsenic; has a silver-white color, high metallic lustre, is very hard, and smells like garlic when heated. It is a good ore of arsenic, but not of iron. The iron pyrite veins in the primary rocks often contain gold.

Iron Paint, or Ochre, is simply oxide of iron, either naturally or artificially triturated to an impalpable powder, pure or mixed with clay or other material. The Limonite oxides make yellow paint, the Hematite makes red, while the Magnetic ore makes black paint. Iron does not become red until it is combined into the sesqui-oxide, containing 30 per cent. of oxygen and 70 of iron.

ZINC.

Zinc, specific gravity 6.8, is a brittle bluish-white metal, very lustrous and of a crystalline foliaceous texture on freshly-broken surface. It is never found pure in nature, but is extracted from its ores.

Sulphide of Zinc, Black Jack or Zinc Blende, specific gravity 4.0, contains 66 per cent. of zinc to 34 of sulphur and impurities. It is of yellowish-brown color generally, but is sometimes black and bluish-black. It looks like masses of agglutinated crystals of brown honey or clear resin. It occurs in all the formations between the Huronian and the carboniferous, and in some of the gold and silver mines it is very abundant. Silver ores mixed with "black jack" are among the most difficult to treat.

Silicate of Zinc or Calamine, gravity 3.4, contains oxide of zinc, 67.5 per cent., 25 of silica and 7.5 of water; the oxide of zinc producing from 50 to 60 per cent. of metallic zinc when measured by the weight of the original mineral calamine. Miners call this ore and the carbonates of zinc and lead all "Dry Bone," because sometimes they look somewhat cellular, like old bone, although calamine frequently is glassy, lustrous and transparent, and is generally white, but occasionally greyish to yellowish. This is one of the principal ores of zinc, is a secondary product from zinc blende, and is found most plentifully in the limestones of the Silurians. It may occur in veins or in washed deposits from broken-down veins, the debris of which has been incorporated as part of subsequent formations.

Carbonate of Zinc, or Smithsonite, gravity 4.4, is very similar to silicate, and is even yet called calamine by some. It is softer than calamine and heavier, and will effervesce with acids. It contains 65 per cent. of oxide of zinc and 35 per cent. of carbonic acid; the oxide of zinc yielding about 50 per cent. of zinc, measured by the original weight of carbonate of zinc. This ore and the silicate produce nearly all the zinc used in America. They are always found together.

Oxide of Zinc, gravity 5.5, contains 75 per cent. of zinc and 25 of oxygen and impurities. It is red or reddish yellow, brilliant lustre, and is translucent. Occurs either in grains or in foliated masses like mica, but the leaves are brittle. This ore accompanies black jack in the veins of the primary rocks as well as in the Silurians. It is the richest of all the zinc ores, and perhaps the most easily worked in the furnace, but it is not an abundant ore, and, therefore, not important as compared with the silicates or carbonates.

PLATINUM.

Platinum is a bright white metal, very like silver in appearance. Its specific gravity is 21.15, when pure, being the heaviest *known* metal. It is both malleable and ductile; welds like iron at a red heat, but cannot be melted by any heat less intense than that of the compound blow-pipe. It does not oxidize or tarnish, and is not attacked by any *single* acid. It is never found as an ore, nor yet pure, but always in the metallic form alloyed with other metals, and one of the most tedious processes in chemistry is that for purifying Platinum. It is nearly always alloyed with the metals Osmium, Rhodium, Iridium and Palladium, one or two of which are thought to be as heavy, if not heavier, than the Platinum, but the quantities for testing this are so mi-

nute as to make accuracy difficult. Platinum is found with gold in the sands of the streams of the primaries. It is in flattened grains and small masses, the native alloy having a gravity of 17 to 19, and having generally angular corners. It is found with gold in Russia, Australia, South America, and in the United States, but only sparingly in this latter country.

MERCURY.

Mercury or Quicksilver, specific gravity 13.6, is a brilliant silvery white metal, liquid at ordinary temperature, but freezes solid at 40 degrees below zero—Fahrenheit—and when thus frozen can be hammered out into plates or drawn into wire, and can be welded like iron. It occurs naturally in the metallic state in globules, disseminated through the rocks, as the result of natural reduction from its principal ore, the sulphide of mercury or cinnabar.

Cinnabar, gravity 9.0 to 10.0, contains 80 to 90 per cent. of mercury, and 10 to 20 of sulphur, is a vermillion red granular ore, sometimes in compact masses, and again like loose red earth with a yellowish tinge. It will evaporate entirely if thrown on a red hot shovel. This ore is the only ore of mercury worth looking for, and all the mercury we know of is in the rocks above the lower primaries, owing to its extreme volatility. It is rarely found actually in veins, but is apt to be disseminated through the neighboring rocks, no matter what rocks they may be. In California much mercury is obtained from tertiary rocks which have been impregnated with mercurial vapors, while neighboring dykes of serpentine or veins of other metallic sulphides were being filled. There are other places where serpentine masses have themselves been impregnated with mercury during the outflow of later dykes or veins. Beds of Silurian slates are sometimes impregnated with metallic mercury and cinnabar, and it has been found in the coal measures in bituminous shales, but always near some dyke or outflow of igneous or eruptic rocks. Minute seams or large pockets of cinnabar occur irregularly throughout the rock as well as the smallest grains, and frequently these pockets are lenticular in shape and are really portions of veins. The Sulphur Banks in California (which reduced the price of quicksilver 20 per cent.) constitute some hundreds of acres of a hill on Clear Lake, and the whole hill is a mass of volcanic rock, impregnated with from 1 to 5 per cent. of its mass of cinnabar. They quarry the rock out in blocks, to be afterwards crushed, and possibly concentrated, before going to the furnaces.

NICKEL.

Nickel, specific gravity 8.82, is a brilliant silver-white metal, very malleable and ductile, and does not oxidize at ordinary temperatures, being therefore very valuable for cheap coins, and spoons and other ware. It occurs in the metallic form naturally only with metallic iron in meteors, and for all practical purposes it is extracted from its ores.

Copper Nickel, gravity 7.0 to 7.5, contains 44 per cent. of nickel to 56 per cent. of arsenic, but no copper, its name coming from its copper-like appearance. It is hard and brittle, and generally fine-grained, and of high metallic lustre. Its powder is almost black, and the fresh surface of the ore soon tarnishes, first to grey, which deepens with time to black.

Sulphide of Nickel, gravity 6.5, contains 65 per cent. of nickel to 35 of sulphur, is a mass of greyish to yellow flexible threads, having a metallic lustre. This mineral is very rarely found pure.

Nickel Glance, gravity 6.5, is sulphide of nickel and arsenic, and contains 35 per cent. of nickel, 19 of sulphur and 45 of arsenic. It is steel grey in color, metallic lustre, very brittle, and occurs in masses with a granular texture, the grains being almost cubic.

Magnetic Pyrites, gravity 4.5 to 5.0, is a compound of the sulphides of nickel and iron, and contains sometimes about 3 to 6 per cent. of nickel. It is massive, very brittle, metallic lustre, and dark brass or orange colored. It is slightly magnetic, and although not so rich in nickel as the other ores, it is the source of nearly all the nickel supply by reason of its greater abundance.

All Nickel ores are found in veins in the primary or lower secondary formations, and the ores are rarely found except in association with cobalt ores mixed with the ores of copper, lead and other minerals, as spoken of under the head of cobalt.

COBALT.

Cobalt, specific gravity 8.5, is a lustrous, reddish-grey metal, of granular texture and very brittle. Its texture may vary from granular to fibrous or laminated, according to the degree of heat used in its reduction from the ores. Metallic Cobalt is never found native, and its reduction from its ores is exceedingly difficult, as it is so much like nickel in all its properties, and the two are always associated. Metallic Cobalt is not useful except as specimens in cabinets, etc., but its combinations with oxygen and other elements give us Smalt, and Azure, and Ultramarine, and all the beautiful blue coloring matter for glass.

Arsenical Cobalt, gravity 7.3, is a silvery-white mineral, containing about 30 per cent. of Cobalt, nickel, and iron, 60 of arsenic, and 10 of copper, sulphur, and other impurities. The silver-white color is only on fresh fractures, the external surfaces tarnishing to reddish-grey. Texture compact to granular. It is brittle, but can be cut with a knife, and its lustre is metallic.

Cobalt Glance, gravity 6.5, sometimes called Smaltine, contains 35 per cent. Cobalt, 45 of arsenic, and 19 of sulphur. Its color is tin white, with a light-red tinge, shining metallic lustre, and is in well-defined cubic crystals, slightly lamellar in structure. It is brittle, cuts with difficulty, and both this and Arsenical Cobalt give off an odor of garlic if held in the flame of a candle.

Cobalt Pyrites, Sulphide of Cobalt, gravity 5.0, contains 58 per cent. of Cobalt, and 42 of sulphur. Its color is steel-grey, inclining to yellow. It is found in grains or granular masses, the grains being cubic in shape.

Oxide of Cobalt, gravity variable as found naturally, looks just like black earthy oxide of manganese or wad, and is nearly always mixed with it, so that the character and value of the mixture depend entirely on its composition.

The Cobalt ores are always found with nickel ores, in the veins and deposits in the primary and lower secondary formations, and frequently mixed with copper or lead ores, as in Missouri, where in some mines the lead and copper ores are powdered over with bluish semi-oxidized arsenical and sulphide ores of Cobalt and nickel, and some seams of the clay slates are spangled with crystals of these ores.

TIN.

Tin, specific gravity 7.29, is a silvery-white metal of high metallic lustre. It is very malleable and soft, but owing to its crystalline texture, it is not ductile, and has almost no tensile coherence, and has, therefore, to be used in alloys or as a coating to other metals. It oxidizes with difficulty at ordinary temperatures, and is, therefore, very useful as a surface coat for other metals such as iron and copper. It is said to have been found pure in Russia and elsewhere in Europe, but only in small grains, and is derived entirely from tin ores for commercial use.

Tin Stone, or Binoxide of Tin, gravity 7.0, contains 78 per cent. of tin and 21 of oxygen. It is a peroxide, *i. e.*, it cannot be further oxidized, and is also called *cassiterite*. It may be grey, yellow, red or black in color, is of a brilliant lustre, and hard enough to strike fire on steel. It is found in veins in the granites and slates of the primaries, and is also found as grains in the beds of streams, and is then called *stream-tin*. It is the principal ore of tin, and produces perhaps 95 per cent. of all the tin the world uses. The principal tin-producing countries are Cornwall in Britain and Tasmania and other Australian provinces.

Tin Pyrites, or Sulphide of Tin, gravity 4.4, contains generally 26 per cent. of tin, 30 of copper, 12 of iron and 32 of sulphur. It is sometimes called "Bell-metal Ore," from its composition. It is rare. It occurs in veins in the primary rock, and is as often worked for copper as for tin when it is found. Its crystalline form is cubic and very similar to iron pyrite, and it leaves a black streak on a hard surface.

ANTIMONY.

Antimony, specific gravity 6.7, is a silver-white metal of brilliant lustre and crystalline texture. It is very brittle, and can be pulverized with a hammer. It is not sensibly affected by exposure to air at ordinary temperature, but tarnishes slowly, although it does not rust. It is only useful as an alloy, being too brittle to be used alone. It is found in the metallic state as an alloy with other metals, but its principal useful occurrence is in combination with sulphur.

Sulphide of Antimony, gravity 4.5, contains 72 per cent. of antimony and 28 of sulphur. It is a leaden-gray in color and of metallic lustre, unless tarnished by oxidation. It is both massive and fibrous, like bunches of needles, and may be granular. Its powder is grey, and turns black and iridescent on being heated, and will melt in a candle flame, giving off fumes of sulphur. It is found in the veins of the primaries and secondaries, with lead and zinc ores. There are oxides of antimony as well as other antimonial minerals, but they are of secondary origin and very rare occurrence, and, therefore, of no commercial value.

MANGANESE.

Manganese, specific gravity 8 0, is a grayish-white metal of mild lustre, fine granular texture, rather soft and brittle, and oxidizes very rapidly. It is difficult to obtain pure, and unless produced by a careful and complicated chemical process it contains carbon, and then resembles cast-iron both in appearance and quality, varying principally in being more brittle and so hard as to strike fire and scratch the best steel. It enters into alloys with nearly all the other metals, and makes them harder and whiter as well as more brittle. It is never found in the metallic state in nature.

Pyrolusite, or Peroxide of Manganese, gravity 4.8, is a black to a blackish-brown mineral, sometimes velvety or fibrous in appearance, and contains 63 per cent. of Manganese to 37 of oxygen. It is found in veins in the primaries and lower secondaries, and nearly always more or less mixed with oxide of iron, making a compound ore which when combined in proper proportions, smelts into "Ferro-Manganese," a very useful substance for mixing with Bessemer and other steel. "Spiegeleisen" is one of the varieties of Ferro-Manganese, these special compounds being smelted from ores either naturally or artifically mixed. This ore of Manganese is used extensively as a producer of chlorine for laboratory uses and for bleaching purposes.

Psilomelane is an oxide of Manganese containing water of crystallization, similar in appearance to Pyrolusite.

Wad is also a hydrated oxide of Manganese mixed with other oxides and impurities generally, and its gravity depends on the amount of impurities; but in general it is very light, and found in loose, black, earthy masses. Wad is to the pure peroxide or pyrolusite what bog iron ore is to the purer oxides of iron.

Manganese Silicate or Rhodonite, gravity 3.6, contains 53 per cent. of oxide of manganese, 45 per cent. of silica and 2 per cent. of iron, lime, magnesia and water. It occurs with the other manganese ores and usually in crystalline masses, flesh red in color, but may be brown to yellow and even green. Is semi-transparent generally, but sometimes opaque; is nearly always black on long-exposed surfaces.

Although this country contains very many enormous deposits of the best peroxides of manganese, nearly all of this mineral used in the world is produced in Europe.

GEMS.

Diamond, specific gravity 3.5, is pure carbon. It is the hardest substance known, and also the most valuable in man's estimation, on account of its great rarity and surpassing beauty. Diamonds are of many colors, but the most valuable are colorless, perfectly transparent and limpid, and of adamantine lustre. From this they graduate in colors to white, yellow, red, blue, green, brown and black, their value being as variable as their color. The black diamonds are now valuable as cutters in drilling tools, and as diamond dust in the cutting of precious stones. Diamonds are found in gravel and sand beds, principally among the gold washings, although they may be just as plentiful (or rather scarce) in other sands and gravels as those of the gold regions, and still not be so frequently discovered, because these other sands are not so frequently examined, and the diamonds resemble ordinary pebbles so much that whole fortunes may be cast aside unconsciously. In washing gravels for diamonds, the operation should not be a rough, rapid one, as the mechanical portion of the operation consists in washing off the silicious pebbles with a gravity of 2.5 from the diamonds with a gravity of 3.5, so that there is not much difference in weight *under water* to operate on. The crystal of the diamond is octohedral, and looks like a couple of flattened "four-square" pyramids stuck together—base to base. The faces or planes of the crystals are not concave or hollow, but very slightly convex or full, and the edges or corners are remarkable for being not sharp, but slightly rounded, although they will cut glass or rock crystal easily enough. The diamond has a peculiarly cold "feel."

In the rough state it very often looks like a lump of gum arabic. Do not try to test a stone for diamond by striking it, as diamond will break nearly as readily as other crystals, notwithstanding the contrary opinion of many people who do not know the difference between hardness and toughness. A diamond will stand great pressure, however, and will allow itself to be slowly pressed into the side of the blade of a knife, or it will dull the teeth of a file. The value of diamonds is entirely a matter of size, clearness, freedom from flaws, and color. The value increases with the size in a rapid ratio, but, big or little, pure or impure, colorless or black, they are always more or less valuable. In addition to the sands and gravels as places to look for diamonds, they are also found in South Africa in what appear to be cavities (having superficial areas of several acres, and depths of several hundred feet) in ledges of shale rock of undetermined geological age, these cavities being filled with grayish clayey soil which is dug out and weathered until it breaks up fine, and is then washed in pans and sluices, the diamonds being left behind, as with gold washing.

Jet, specific gravity 1.25, is a kind of bituminous coal, and is found in the lignite beds of the tertiary formation. It is "jet" black, perfectly opaque, texture compact and homogeneous generally, although it sometimes shows a woody fibre; it occurs in irregular masses of a few ounces to a few pounds weight, and these masses sometimes have the shape of knotty branches of trees. Its lustre is shining and brilliant, its fracture conchoidal, and it is as clean as anthracite, and hard. It is used for all sorts of "mourning" jewelry and trinkets, and has many imitations. It is to be looked for in the lignitic coal beds everywhere.

Amber is a fossil resin. It is genefally of a wine-yellow color, transparent and beautifully lustrous, although inferior varieties may be somewhat dull and cloudy, and even brown or black in color. Amber is found in the lignite beds in the same position as jet, but the pieces are generally much smaller than the masses of jet, and it is much scarcer and more valuable. About the only mining that is done exclusively for amber is near the sea-shore in Germany, where, at a depth of many feet below sea level, there is found a lignitic bed containing many pieces of amber, and very extensive and costly operations are now carried on to obtain it. The choice pieces contain insects which were embedded in the amber when it was exposed and liquid, and have been preserved ever eince. Amber has many imitations, principally gums or resins, such as gum copal.

Sapphire, specific gravity 4.0, when absolutely pute, is pure alumina, but it generally contains traces of lime and iron. Although blue is the true sapphire color, yet the red is the most valuable. The red sapphire is called the oriental Ruby; the yellow, the oriental Topaz; the green, the oriental Emerald; and when it is violet colored, it is the oriental Amethyst. The sapphires rank next to the diamonds in value, and the ruby or red sapphire, when especially perfect, is fully equal to diamond. Sapphires are rather longish hexagonal prisms, just about the shape of one of the cells in a honey-comb, but the very perfect crystals are rarely that large, especially the rubies. Sometimes the crystals will be six sides at the base and taper towards the other end, or even run out to a point, making a six-sided pyramid, and occasionally two of these pyramids will be joined together, base to base. The sapphires are of the same composition as corundum (used in polishing) and are next to diamonds in hardness. They will cut anything except each other and diamond, but they will not resist breaking any better than diamond. They are found in veins carrying chloritic minerals along with corundum and emery in serpentine and other dykes in the primary rocks, and are also washed out of clays, sands, etc., which have resulted from the destruction of the original veins, just as gold is found, and their weight assists in their detection.

Ruby, or Spinel Ruby, gravity 3.5, contains 72 per cent. alumina, 28 magnesia, and sometimes chromium, which last constituent gives it its red color, which is scarlet, or rose-red, or orange-red, or violet-red. The crystal is octohedral, looking much like a couple of four-square pyramids fastened base to base, similar to diamond crystals. Spinel rubies are not so hard nor so valuable as the sapphire rubies, and are found in very much the same localities, but with an additional range up into the crystalline and other lower limestones. This ruby is as heavy as the diamond, but not so heavy as sapphire.

Chrysoberyl, gravity 3.8, contains 80 per cent. of alumina, 20 of glucina, and occasionally impurities. Its crystal is generally a short six-sided prism, but sometimes is very complicated. Its color is green, with a yellowish or brownish tinge, and it has

the gem-like reflection of light from the interior. It accompanies the sapphires and other aluminous gems, but is not ranked very high in value.

Turquoise, gravity 3.0, contains 45 per cent. of alumina, 30 of phosphoric acid, 4 of copper, 2 of iron, and 19 of water. It is bluish-green and somewhat waxy or dull in lustre, passing into sky-blue or apple-green. It is opaque, and the crystals are generally decomposed into kaolin on the outside and difficult to recognize. It is found with the other aluminous minerals.

Tourmaline, gravity 3.0, is of many colors, and has some variation in composition, the red showing 44 per cent. of alumina, 40 of silica, 9 of boracic acid, 2 of manganese oxyd, and 3 of lithia and water. The red tourmaline called rubellite has all the color and richness of the ruby, and is found much larger, affording gems of great beauty and value. Yellow tourmalines are often as fine and almost as valuable as the topaz. There are black and blue tourmalines which are also more or less valuable, and the long slender crystals of black tourmaline are much sought after for cabinets. Tourmalines are crystallized in prisms of 3 or 6 or more sides, but the number of sides is always a multiple of 3. They are very brittle, and are found in the primary rocks and the lower limestones of the secondaries, also in, or around veins or dykes.

Topaz, gravity 3.5, contains 30 per cent. of aluminum, 15 of silicon, 20 of fluorine, and 35 of oxygen. Its color is usually a wine-yellow, but it runs into green, red and blue shades. Its crystal is an eight-sided prism, and its color can be easily altered by the application of heat. Its place is in veins, dykes, etc., along with the other aluminous minerals. Its value is not of the first rank. The red crystals are the most prized, as they can be passed for rubies.

Emerald, gravity 2.7, contains 67 per cent. of silica, 19 of alumina, 14 of glucina, and a trace of chromium. It is of a rich green color, somewhat vitreous lustre, comes in six-sided prisms, and is found in the primary and secondary rocks, principally in magnesian limestones. Perfect emeralds are very scarce, beautiful and valuable. They are hard and brittle, and dull coated on the outside, and, therefore, difficult to recognize.

Beryl, gravity 2.7, has the same composition as emerald, except that a trace of iron takes the place of the chromium in the emerald. It differs greatly from the chrysoberyl, which is decidedly aluminous, while Beryl is just as decidedly silicious. Beryl comes in six-sided prisms, very much like emerald, and is found in the same rocks. They are greenish in color, and the very clear, pure, sea-green crystals are called aqua-marines, and are very valuable.

Opal, gravity 2.1, is pure silica, usually containing some water. It is a kind of soft quartz, but its perfect specimens are in the same rank as diamonds and rubies for beauty and value. It is white, red, yellow, green or grey in color, very compact and lustrous, and presents a somewhat milky appearance. It is remarkable for its power of reflecting all the colors of the rainbow as the stone is turned over. When this play of colors is perfect, the stone is a "precious" opal; when only the red or yellow rays are reflected it is called "Fire" Opal, and when it ceases to give off colored light it becomes common or semi-opal, and may be brown or black in color. Opal is a quartz pebble, and is to be looked for anywhere that quartz is found, even up in the tertiaries or quarternaries.

Amethyst, gravity 2.6, is quartz, colored probably by manganese. It is in six-sided crystals with a vitreous lustre. A six-sided prism with a six-sided pyramid on one end, the other end attached to a matrix of sandstone, is the most usual form. The color of the true amethyst is violet, but the red stone, properly called "rose quartz," is often called red amethyst; the yellow quartz or false topaz also is erroneously called yellow amethyst.

A lot of quartz crystals taken from one "digging" will often show amethyst, rose quartz, yellow quartz, smoky quartz and prase or green quartz, and they are all very beautiful stones, much valued.

Carnelian, gravity 2.6, is also quartz, but it is in the chalcedonic state; *i. e.*, massive, translucent (not transparent), and has a somewhat waxy appearance. Carnelian is bright red, and of a rich clear texture and tint, and is much used by the jewelers.

Chrysoprase is an apple-green quartz of the chalcedonic variety.

Agate is a variegated chalcedonic quartz, the colors being arranged in concentric rings or distributed in cloudy-looking spots. Sometimes they are in zig-zag lines and again resemble a bunch of loose hair or moss floating in water.

Onyx, gravity 2.6, is a variety of agate. The layers of different colored quartz in

the onyx are laid on each other like the leaves of a book. It is used principally in cameo work, where by cutting away portions of the upper layer of one color, the next layer of an entirely different color is exposed. A new so-called onyx has been introduced into American art under the name of the "Mexican" Onyx. It is a very beautiful stone, and the paper weights, vases, cabinet specimens, mantels and brackets from it are of rare beauty and very valuable; but it is carbonate of lime, and, therefore, not onyx, which is silica.

Garnet, gravity 4.0, contains about 42 per cent. silica, 20 of alumina, 33 of iron, and 5 of manganese. Sometimes the manganese is increased at the expense of the other constituents, principally the silica and iron. The general shape of the crystal is dodecahedral, but its surface is made up of a great number of small facets. There are very many colors to this stone, but the precious garnet is a clear, deep red, and is quite valuable. Other varieties are the "Cinnamon" stone, of a light, yellowish-brown color, or the Ouvarovite, which contains chrome and is of a rich emerald-green color, and there are also brown, yellow and black garnets. Garnet is very hard but also quite brittle, and the coarser varieties are crushed into sand and used as an abrasive. The garnets belong to the primary formations, and are generally found studding the slates and elsewhere in rather solid rock, but rarely in recent alluvial deposits.

Lapis-Lazuli, gravity 2.7, contains 45 per cent. silica, 32 of alumina, 9 of soda, 4 of lime and 10 of iron, sulphur, chlorine and water. It occurs in many-faced dodecahedral crystals, and also in slabs, and its color is rich azure blue. Its powder is the celebrated paint known as "Ultra-Marine," and the stone itself is used for jewelry of all kinds and for mosaic and inlaid ornamental carvings. Fine slabs of this mineral are very valuable. It is to be looked for in granite and other primary rocks, and in the lower limestones.

Hyacinth, gravity 4.6, contains 33 per cent. of silica and 67 of zirconia. Its color is red, and it is beautifully clear and of adamantine lustre. It occurs in square prisms, sometimes with the corners beveled, and perfect specimens are very valuable. Hyacinths are the purer varieties of the mineral Zircon, which is brown, grey, yellow or white, and is used for watch jewels. The zircons, including of course the hyacinths, are found only in the primary rocks.

Precious Serpentine, gravity 2.5, contains 42 per cent. silica, 44 of magnesia, 12 of water and 2 of iron, etc. The more beautiful portions of the rock serpentine are called "precious." It is usually massive and compact in texture, and of an oily-green color, dull resinous lustre, and soft enough to be cut with a knife. Its colors are very rich, and it is very highly prized as a material for vases, mantels, brackets, and other ornamental work. It occurs in dykes thrown up through the primary rocks, and can be quarried out in blocks and slabs with care.

Verd Antique is a limestone having serpentine disseminated through it in veins or cloud-like masses, and is one of the most valuable of ornamental stones.

Malachite is the green carbonate of copper. When found in large and pure enough masses to be cut into vases, table-tops, etc., it is too valuable for making copper. Its value depends largely on the color bands and radiations.

PAINTS.

Natural paints are those minerals which, when finely powdered and mixed with oil, will adhere to any surface upon which they may be spread, and in time form a skin or film hard and impermeable enough to protect the surface from ordinary weathering.

Red Iron Paint is composed of oil mixed with the red powder of pulverized sesquioxide of iron, the ores for this purpose being the grey or red oxide. *i. e.*, the specular and red hematites described under the head of iron and its ores. The sesqui-oxide of iron contains 70 per cent. of iron and 30 of oxygen, and is the richest possible *red* iron paint, for the reason that no iron oxide becomes red until it takes up 30 per cent. of oxygen. The red paint made by completely pulverizing the grey sesqui-oxide or the red dyestone hematite ores, with very heavy machinery and conscientious care, is a first-class paint.

Yellow Iron Paint is the powder of pulverized hydrated sesqui-oxide of iron, commonly called limonite or brown hematite iron ore. When pure, this ore cannot contain more than 60 per cent. of iron, but by mixing with the anhydrous oxides, the color is darkened and the metallic percentage increased nearly to that of the red or black oxide.

Black Iron Paint is the powder of pulverized black oxide of iron, this being the magnetic ore, and contains, when pure, 72 per cent. of iron. This ore is a proto-sesqui-oxide, and is the richest possible stable or fixed compound of iron and oxygen, the proto-oxide changing into this by taking up more oxygen on the first exposure to moist air. This black powder mixed with the red or yellow powders, gives a very wide range of colors.

Umber is of variable shades, but is produced by mixing the iron paints with powdered oxide of manganese, which gives a purplish gloss to the iron colors.

Red Copper Paint is the pulverized red oxide of copper, and is rarely made for use out doors, as the ore is too valuable.

Green Copper Paint is the pulverized green silicate of copper.

Zinc White is the oxide of zinc, and is not found pure enough in nature, but is manufactured.

White Lead is carbonate of lead, which also is made in large establishments, and under complicated processes, the native carbonate ores of lead not being pure enough.

Red Lead is an oxide of lead, and is manufactured.

Vermillion is pulverized cinnabar, the sulphide of mercury.

Spar Paint is pulverized barytes. It makes a tolerable paint, very white in color, and is used to adulterate white lead or zinc paints.

Cement Paint is any kind of lime mixed with vegetable oil instead of water, as in the case of whitewash. There are some of the cements which make a most admirable paint when ground in oil.

Slate Paint is made of selected scraps of fine-grained slates pulverized and mixed or ground in oil. When used in very thick coats the slate paints become fire-proof, and mixed with india rubber, or sometimes asphaltic mineral, they make good roofing.

Graphite Paint is pulverized pure black lead or graphite. This is very fine and glossy, and can be made into a fire-proof coating for roofs and other surfaces.

Red Ochre is fine clay containing enough red iron ore to tint it. It can be made artificially by mixing red iron paint with clay, but the fine natural ochres are the most valuable, by reason of the immense amount of assortment and trituration which they have undergone. Man has not yet successfully imitated these, except by expensive chemical precipitation.

Yellow Ochre is any mixture of clay with brown iron ore, and can be prepared artificially, as with red ochre, but the natural mixture is the best. These ochres when mixed with manganese make the different shades of umber. The difference between the metallic paints and the ochre paints is merely that the metallic paints are the pure oxides, while the ochres have more or less clays mixed with them.

All natural paints should be carefully assorted into lumps of uniform color and texture before being powdered, or the result will be variable. The yellow iron paints and ochres change to red by burning, *i. e.*, the water of hydration is burned out of the limonite iron ore, leaving it a red hematite.

PROFESSOR J. D. DANA'S TABLE OF GEOLOGICAL FORMATIONS.

SYSTEMS OR AGES.		GROUPS OR PERIODS	FORMATIONS OR EPOCHS.
Age of man.		20. Quaternary.	20. Quaternary.
Age of mammals.		19. Tertiary.	19 c. Pliocene. 19 b. Miocene. 19 a. Eocene.
Reptilian age.		18. Cretaceous.	18 c. Upper Cretaceous. 18 b. Middle Cretaceous. 18 a. Lower Cretaceous.
		17. Jurassic.	17. Jurassic.
		16. Triassic.	16. Triassic.
Carboniferous.		15. Permian.	15. Permian.
		14. Carboniferous.	14 c. Upper Coal Measures. 14 b. Lower Coal Measures. 14 a. Millstone Grit.
		13. Subcarboniferous.	13 b. Upper Subcarboniferous. 13 a. Lower Subcarboniferous.
Devonian, or age of fishes.		12. Catskill.	12. Catskill.
		11. Chemung.	11 b. Chemung. 11 a. Portage.
		10. Hamilton.	10 c. Genesee. 10 b. Hamilton. 10 a. Marcellus.
		9. Corniferous.	9 c. Corniferous. 9 b. Schoharie. 9 a. Cauda Galli.
SILURIAN OR AGE OF INVERTEBRATES.	Upper Silurian.	8. Oriskany.	8. Oriskany.
		7. Lower Helderberg.	7. Lower Helderberg.
		6. Salina.	6. Salina.
		5. Niagara.	5 c. Niagara. 5 b. Clinton. 5 a. Medina.
	Lower Silurian.	4. Trenton.	4 c. Cincinnati. 4 b. Utica. 4 a. Trenton.
		3. Canadian.	3 c. Chazy. 3 b. Quebec. 3 a. Calciferous.
		2. Primordial or Cambrian.	2 b. Potsdam. 2 a. Acadian.
		1. Archæan.	1 b. Huronian. 1 a. Laurentian.

PROFESSOR T. STERRY HUNT'S TABLE OF GEOLOGICAL FORMATIONS.

AGES.	GROUPS.	AMERICAN FORMATIONS.
Cenozoic.	20. Quaternary.	20. Recent.
	19. Tertiary.	19 c. Pliocene. 19 b. Miocene. 19 a. Eocene.
Mesozoic.	18. Cretaceous. 17. Jurassic. 16. Triassic.	18. Cretaceous. 17. New Red Sandstone. 16. New Red Sandstone.
Paleozoic.	13–15. Carboniferous.	15. Permo-Carboniferous. 14. Coal Measures. 13 b. Mississippi (Carb. Limestone). 13 a. Waverley or Bonaventure.
	8–12. Erian or Devonian.	12. Catskill. 11. Chemung and Portage. 10. Hamilton (including Genesee and Marcellus). 9. Corniferous or Upper Helderberg. 8. Oriskany.
	5–7. Silurian.	7. Lower Helderberg. 6. Onondaga or Salina. 5 c. Niagara (including Guelph). 5 b. Clinton. 5 a. Medina. 5 a. Oneida.
	4. Upper Cambrian, Siluro-Cambrian, Ordovician, or Ordovian.	4 c. Loraine. 4 b. Utica. 4 a. Trenton.
	3. Middle Cambrian.	3 c. Chazy. 3 b. Levis (Tremadoc and Arenig). 3 a. Calciferous.
	2. Lower Cambrian.	2 e. Potsdam. 2 d. Sillery. 2 c. Acadian (Menevian). 2 b. Taconian. 2 a. Keweenian.
Eozoic.	1. Primary or Crystalline.	1 e. Montalban. 1 d. Norian or Labrador.* 1 c. Huronian. 1 b. Arvonian. 1 a. Laurentian.

* Professor Hunt says there are many reasons for believing that the Norian may be older than the Arvonian and Huronian.

NOTES.—In the following notes Professor Hunt's classification is sufficiently followed to show the nature of the older groups which he distinguishes:

1 a. *Laurentian.* Chiefly massive gneiss, reddish or grayish, sparingly micaceous, often hornblendic. Some crystalline limestone, magnetic iron, and other metallic ores.

1 b. *Arvonian.* Chiefly petrosilex, often becoming quartziferous prophyry, with some quartzites and hornblendic rocks; magnetic and specular iron ores.

1 c. *Norian.* Chiefly a feldspathic rock (norite), which sometimes carries garnet, epidote, etc.; also, great beds of titaniferous iron ores.

1 d. *Huronian.* Chloritic schists, greenstone (diorite or diabase), serpentine, steatite, dolomite, copper, chrome, nickel, and iron ore.

1 e. *Montalban.* Fine-grained micaceous or hornblendic gneiss, chrysolite rock, serpentine, mica-chist, granite.

2 a. *Keweenian.* The copper-bearing series of Lake Superior, made up of sandstones and conglomerates, with much interstratified eruptive rock.

2 b. *Taconian.* Granular quartzites, argillites and nacreous or hydro-micaceous schists, and great masses of crystalline limestone, marbles, magnetite, siderite, and pyrite changing to limonite.

2 c and 2 d. *Acadian* (and *Sillery*). Fossiliferous sandstone and shale.
2 e. *Potsdam.* Sandstone, conglomerate.
3 a. *Calciferous.* Sandy magnesian limestone, calcareous sandstone.
3 b. *Quebec.* Sandstone, limestone conglomerate, black slate.
3 c. *Chazy.* Limestone, chert.
4 a. *Trenton.* Limestone, buff and blue; dolomite carrying lead-ore deposits; brown hematite beds.
4 b. *Utica.* Dark carbonaceous slate; impure limestone.
4 c. *Hudson River.* Slate, shale, clay, grit.
5 a. *Medina.* Conglomerate; argillaceous sandstone.
5 b. *Clinton.* Sandstone, shale, conglomerate, limestone, fossiliferous red hematite, or oolitic iron-ore bed.
5 c. *Niagara.* Clay shale; limestone.
6. *Salina.* Red shale, gypseous shale, hydraulic lime, salt.
7. *Lower Helderberg.* Limestone, shaly or compact, and fossiliferous.
8. *Oriskany.* Sandstone.
9. *Corniferous or Upper Helderberg.* Principally limestone.
9 a. *Cauda-galli.* Fine-grained calcareous and argillaceous, drab or brownish sandstone; peculiar fossils.
9 b. *Schoharie Grit.* Fine-grained calcareous grit, similar to 9 a, but with differing fossils.
9 c. *Onondaga*, and 9 d. *Corniferous.* Gray, blue, black limestone. At the top of 9 d occur the Marcellus iron ores (carbonate).
10 a. *Marcellus.* Black or dark brown bituminous and pyritiferous shales. In 10 a and 9 d occur the petroleum deposits of Canada.
10 b. *Hamilton.* Slate, shale, sandstone, calcareous, and argillaceous.
10 b. *Tully.* Impure dark limestone.
10 c. *Genesee.* Black clay slate.
11 a. *Portage.* Green and black sandy and slaty shales, sandstone, flagstone.
11 b. *Chemung.* Thin-bedded greenish sandstones and flagstones, with intervening shales, and rarely beds of impure limestone.
12. *Catskill.* Red, gray sandstone, grindstone grit, greenish shale, conglomerate.
13 a. *Lower Subcarboniferous.* Sandstone, limestone, small local coal beds.
13 b. *Upper Subcarboniferous.* Red shale, red and gray sandstone, blue limestone.
14 a. *Millstone Grit.* White or yellow sandstone, and conglomerate of quartz pebbles.
14 b and 14 c. *Coal Measures.* Fire-clay, shale, sandstone, conglomerate, limestone, bituminous coal, anthracite, iron ore, salt.
15. *Permian.* Limestone, sandstone, marl, shale.
16. *Triassic.* Red sandstone, red shale, conglomerate, lignite, trap dikes, copper ore, coal.
17. *Jurassic.* Marl, limestone, probably the gold-bearing slates of California.
18. *Cretaceous.* Earthy beds of sand, marl, clay, limestone, chalk, lignite.
19. *Tertiary.* Earthy sand, clay, marl, limestone, sandstone.
20. *Quaternary.* Sand, pebbles, boulders, clay, diluvium, alluvium; gravel and placer tin and gold deposits.

NOTE.—The primary and crystalline schistose rocks contain the larger number of mineral veins. The ancient magnesian limestones (probably Devonian) are characterized in many localities by deposits of argentiferous lead ore and of zinc ore.

MINERAL DEPOSITS.

Mineral deposits are of various kinds. They may mainly be divided into

1. Ore-bearing strata, or beds.
2. Veins.
3. Ore chimneys.

An ore-bearing stratum is a stratum which is largely or wholly composed of the ore, which is deposited between strata of rock. Evidently these can only occur in a region of stratified rocks. To this class belong many iron veins. The strata may be uptilted or horizontal. "Pockets" of ore are often found limited to a certain stratum of rocks, and are deposits of ore found in the cavities or caves in the rocks. They may be of almost any size. The word pocket is also applied to a rich spot in any ore deposit.

Veins are those deposits where the country-rock has been cleft by fissures, which have been afterward filled in with an accumulation of mineral matters in a purer or more concentrated form than that in which they existed previously in the rocks. The accumulation has in all cases taken place subsequently to the formation of the fissure, and by a slow process; either of *lateral secretion* or *infiltration*, by which minerals leached out of the country rocks were deposited in the fissure; or, in the case of the great fissures, by deposit from hot alkaline springs coming up through the fissures. The vein filling is deposited in the latter case by the solution, or hot alkaline water, as it cools. In California and Nevada such alkaline carbonate and alkaline sulphide solutions are found still depositings ilica (quartz) and carbonates of lime and iron, and in some cases filling fissures (Le Conte).

A "contact vein" is one in which the vein has followed the joint or contact between two strata of rocks. These strata may be either horizontal or inclined at any angle. The hanging wall and foot wall are frequently of different characters.

An "ore chute" is a part of a vein, of small lateral extent, but continuing downward through the vein, which is larger or better filled with ore than most of the vein.

Another and less frequent mode of deposit is that in the form of an ore "chimney," where there is apparently no fissure, but an almost vertical deposit of ore without comparatively great lateral extent, and without inclosing walls.

Le Conte, in his Elements of Geology, says "Fissure veins . . . are fillings of the great fissures produced by movements of the earth's crust. When these fissures are filled at the time of formation [with lava or barren rock] by igneous injection, they are called dikes; but if subsequently, with mineral matter, by a different process [deposit from solution] they are fissure veins . . . . . The distinction between the vein and the wall-rock is usually quite marked. In many cases . . . . the vein-filling is separated from the wall-rock by a layer of tenacious clayey matter called a selvage. The selvage is probably formed by decomposition of the wall-rock in immediate contact with the vein, by circulating water."

"Mineral veins seldom or never outcrop on the surface in the condition in which we have described them. On the contrary, there are certain changes which they undergo through the influence of atmospheric agencies, which render their appearance along their outcrop quite different from that of the same vein at some depth below." These changes are various, depending upon the contents of the vein. In veins containing copper pyrites below, the surface outcrop shows usually spongy iorn ore. In veins containing galena the outcrop is likely to contain carbonate of lead. In veins of quartz containing iron pyrites, the outcrop is likely to be an iron-stained porous quartz, containing gold if the pyrites do also.

Faults in veins. Nearly always, the walls on the two sides of a fissure do not correspond with each other, but one side has been pushed up higher or dropped down lower than another, Such a displacement is called a fault, a slip, or a dislocation. The foot wall has usually gone upward and the hanging wall downward. At other times a fault or slip may have occurred across the vein, and the vein is lost after reaching a certain depth, or a certain lateral extent. In this case the direction of the slipping must be ascertained from the conditions at the fault,

An inclosed mass of country rock in the midst of the ore of a vein is called a "horse." These are the results of movements of the walls after the fissure was first formed.

SUGGESTIONS TO PROSPECTORS.

No fine clothes, not even a white shirt, should be brought to the mountains. The prospector should have two ponies or two jacks, a pole pick, shovel, compass, frying-pan, tin plates, knife, fork, spoon, four double blankets, oil cloth, gum overcoat and leggings, and a small tent.

PROF. CLAYTON'S ADVICE TO PROSPECTORS.

1. Examine the gravel and boulders of the mountain streams, and note carefully the structure and character of the gravel wash. This will reveal the geological formations that are intersected by the stream. Try the sands at the head of the gravel bars for free gold, or for any crystalized minerals. If the structure of the quartz boulders or other vein stones is favorable, go up the stream until the geological zone is found that has produced the quartz or other metal-bearing minerals. Then follow the supposed metal-bearing zone on its line of strike, and make especially careful examinations wherever eruptive dykes are found intersecting the formation.

2. When a lode or vein is found, note carefully its relation to the country rock, especially any difference in the opposite walls of the vein. Then follow it on the line of outcrop, and note carefully those points where the best ores are seen, so as to determine the position of the best ore chutes before making any location on the lode.

3. The first work should consist of shallow cuts across the lode at intervals of 50 to 100 feet, or if the vein is small and partially covered by soil and debris, a trench along the line of outcrop is preferable. If the surface tracing is satisfactory, and the true line of line of strike has been determined, then survey your claim and stake off the boundaries according to the requirements of the United States laws.

4. The work of exploring the vein under ground is the next thing in order. To do this intelligently, you must select that point on the line of outcrop where the best ore is found, then sink a shaft on the lode following the angle of dip, keeping both foot wall and hanging wall exposed if possible. If the lode is too wide for this to be done, then follow the best ore streak of the vein itself, and at every fifty feet in depth make cross-cuts to the walls of the vein.

5. After 100 feet has been reached, run levels each way from the shaft on the line of the vein, in order to determine the extent or spread of the ore chute or chimney in the horizontal line. When the limit of the ore body on the horizontal line has been ascertained, then sink 100 feet more, and drift right and left as before. If more than one chimney of ore is found on the line of the vein, a shaft should be sunk on it, and drifts run as above stated, being careful to confine all the exploring work within the walls of the vein itself.

6. When enough has been done to prove the character, size and quality of the vein, it will then be time to determine the position, character and extent of the "dead-work" necessary to work the mine to the deep. These questions should be settled by careful surveys made in the light of all the local facts and surroundings, such as the geological structure of the country rock, the probable amount of water to be raised, the lowest point of drainage by adit or level, and the most convenient point for delivery of the ores to the surface, etc.

The last part of the preliminary exploration of any mine is to determine, by actual tests, what are the best methods of reduction, and the extent and kind of reduction works needed, etc.

7. After all these preliminary facts have been thoroughly ascertained and clearly defined, the unavoidable risks of mining will have been fully met and overcome. All subsequent operations are simply matters of skill and business management, and the capitalizing of the mine becomes a mere matter of business detail.

The requirements are as follows:

1. The preliminary exploration must have ore enough cut and under-run, or otherwise exposed, to give at least two years' work for reduction work of an extent sufficient for the annual average output of ore.

2. The reduction works must be suited for the best treatment of the ore.

3. The exploration of the mine must be pushed ahead of the extraction of ore, so as to expose at least one ton of ore in new ground for every ton extracted from the previously explored ground.

4. Before erecting reduction works, the ore exposed in the mine should be so thoroughly tested as to guarantee a net profit sufficient to pay the whole cost of such work.

5. The mine being well opened, and the reduction works or plant established, the general success of the enterprise must depend upon the efficiency of the general business management.

Marking the Boundaries of a Claim on Government Land.

Complete directions are given in the United States mining laws and land office regulations, for writing a location notice and for the preliminaries required for locating a claim. A short description of the method of marking the corners of a claim on government land is here given, with an explanatory diagram.

In all cases of locating a lode claim, a location notice is required to be posted at the discovery opening. This must contain the name of the lode, the date of discovery, the names of the locators, and the distance and direction of the claim each way from the opening along the vein. The width is limited by United States laws to 300 feet each side of the vein; but State and District regulations often make it less. The total length along the vein is always 1500 feet, except where limited by other claims. As soon as the discovery is made the prospector usually writes his location notice on a smoothed stake, with a soft pencil, plainly, in the following manner: [the description is, of course, imaginary].

"The Cornucopia Lode Claim.

"I (or we) claim fifteen hundred feet in length along this lode; twelve hundred feet in a North Easterly direction from this discovery shaft, and three hundred feet in a South Westerly direction therefrom, running with the outcrop of the lode; with one hundred and fifty feet in width on each side of the center of the vein. Discovered this 10th day of June, A. D. 1897.

JOHN SMITH, one-half owner,
RICHARD ROE, one-fourth owner,
JOHN DOE, one-fourth owner,
Locators."

This is posted in a conspicuous place near the shaft.

Having sunk the discovery shaft, or cut, or tunnel, to the required distance, it becomes necessary within a prescribed time to mark the boundaries of the claim. A knowledge of the trend of the vein as indicated by the points of the compass is required. A pocket compass may be used; or if the direction of the North and South line at the discovery is known, from observing the sun at noon or the North Star at night, the general direction of the vein may be determined from this closely enough for the purpose of the description, and no risk will then be run of making a mistake on account of the variation of the compass, which is uncertain in the mining regions. It is only necessary to name the direction approximately, thus, Northerly and Southerly; or, Northwesterly and Southeasterly.

A good tape line 25 to 50 feet long should be used for measuring, and should be previously tested with a 2-foot rule or a carpenter's square.

Having determined the direction in which the vein extends, measure from the shaft along the line of the outcrop of the vein, which is the center line of the claim, the distance claimed in each direction, setting a temporary stake at the middle of the center line when it is reached, and stakes at the center of each end line. In some States and Territories the law requires permanent stakes at the centers of the end lines; in others, as in Colorado, these may be only for temporary use in setting the corners.

From each of the three stakes on the center line of the claim, viz., one at each end and one at the middle of the claim, measure at a right angle to the center-line distances equal to the width claimed on each side of the center to both right and left, and at the points thus reached set the permanent stakes for the corners and side-line centers. These stakes are usually at least four feet above the ground, four inches thick each way, and smooth on at least one side, on which is written plainly the name of the lode-claim and the designation of the corner, thus: "North Corner of Cornucopia Lode Claim."

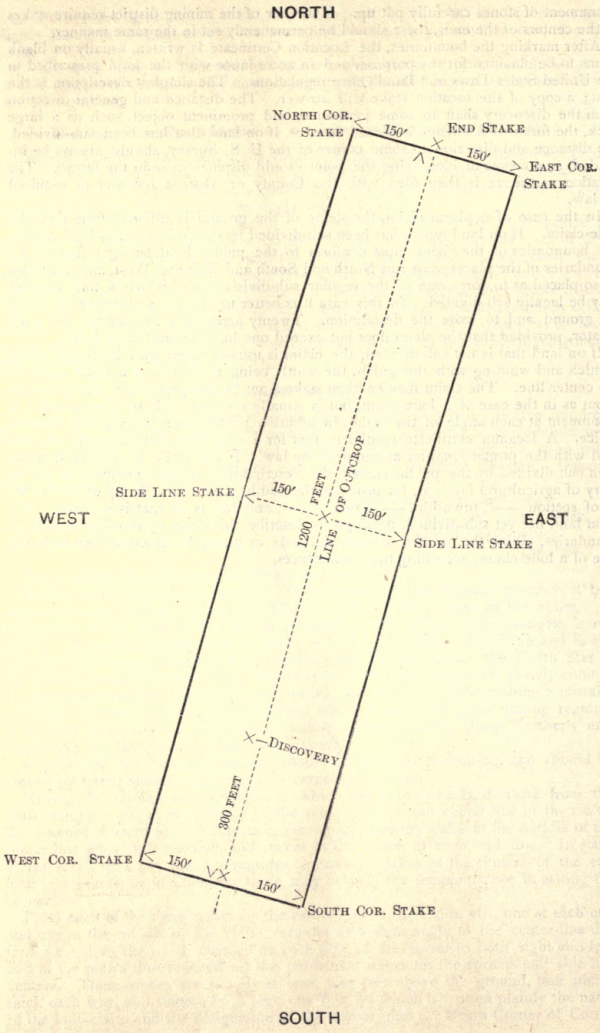
The stakes are driven, if possible, into the ground, and also surrounded by a

monument of stones carefully put up. If the law of the mining district require stakes at the centers of the ends, these should be permanently set in the same manner.

After marking the boundaries, the Location Certificate is written, usually on blank forms to be obtained for the purpose, and in accordance with the form prescribed in the United States Laws and Land Office regulations. The simplest description is the best; a copy of the location stake will answer. The distance and general direction from the discovery shaft to some permanent and prominent object, such as a large rock, the forks of a stream, a blazed tree, or, if on land that has been sub-divided, the distance and direction to some corner of the U. S. Survey, should always be included, as a means of identifying the point should disputes arise in the future. The location certificate is then filed with the County or District recorder as required by law.

In the case of a placer-claim, the shape of the ground is different from that of a lode-claim. If on land which has been sub-divided by the United States land survey, the boundaries of the claim must conform to the public land survey; that is, the boundaries of the placer must run North and South and East and West, and must also be so placed as to form one of the regular sub-divisions into which a forty-acre lot may be legally sub-divided. In this case it is better to employ a surveyor to locate the ground and to write the description. Twenty acres may be claimed for each locator, provided that the claim does not exceed one hundred and sixty acres.

If on land that is not sub-divided, the claim is usually taken with its length along a gulch and winding with the gulch, the width being measured at a right angle to the center-line. The claim may be then staked out by the prospector, who proceeds about as in the case of a lode-claim, but is usually required only to place a stake or monument at each angle of the claim, in addition to the stake bearing his location notice. A location certificate similar to that for a lode-claim is then made out and filed with the proper recorder as required by law. If the claim is on land that has been sub-divided by the public survey, the description is written precisely as for an entry of agricultural land, as, for instance, the South ½ of the S. W. ¼ of the N. W. ¼ of section ——, township, ——, range ——, and this is all that is required. But if on land not yet sub-divided, it is best to describe the claim by running around its boundaries, giving the number of acres claimed; or it may be described just as in the case of a lode-claim, according to circumstances.


NORTH
NORTH COR. STAKE
150′
END STAKE
150′
EAST COR. STAKE
SIDE LINE STAKE
150′
WEST
1200 FEET
LINE OF OUTCROP
150′
EAST
SIDE LINE STAKE
DISCOVERY
300 FEET
WEST COR. STAKE
150′
150′
SOUTH COR. STAKE
SOUTH

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Fortunes Await Inventors.

Isaac M. Singer, the sewing machine inventor, who started life a poor boy, left $13,000,000 to his heirs. Elias Howe passed his first years in poverty, but had an income in later life of half a million dollars annually from royalties on his sewing machine patents. Charles Goodyear accidentally mixed sulphur and india rubber on a red-hot stove. His royalties on his vulcanization patents gave him a princely income. The Westinghouse Air-brake has produced $20,000,000 for its inventor's company. The McCormick and other harvester patents have poured millions of dollars into the pockets of their owners. Edison and the other inventors in the field of telegraphy and electricity have piled up enormous wealth. Alexander Graham Bell started life as an impecunious teacher. His telephone invention has blessed the world and made him rich. The barbed wire patents, covering a simple idea, have earned immense profits. Dr. Higgins invented the sliding thimble for umbrellas. He took out patents in England, France, Germany and elsewhere at small cost, and says he has received $100,000 in royalties. A Washington clerk riding in the cars on his way home, bent a piece of brass and invented a paper fastener. He is said to have had an income of $30,000 annually for a considerable period. The inventor of the puzzle known as "Pigs in Clover" is reported to have cleared more than $100,000. The Hoe Printing Press patents have been very remunerative. Hundreds of patents could be mentioned that have made their owners wealthy.

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Mr. Copp was for five years Examiner of Mining Claims and Contests in the General Land Office and Acting Chief of Division.

Publisher of COPP'S U. S. MINING DECISIONS, (1874;) COPP'S HAND-BOOK OF MINING LAW, (1877,) (8 editions;) COPP'S U. S. MINERAL LANDS, (1881,) (second edition, 1882;) and COPP'S AMERICAN MINING CODE, (1881;) and several other works on Public Land Law.

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Mr. Luckett was Chief of Contest Division and Law Clerk of the General Land Office during President Cleveland's first administration.

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